08/945731
AH #8

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   Set  Items  Description
   ---  -----  -----------
? s critical(w)solution(w)temperature

      338008  CRITICAL
      793938  SOLUTION
     1250236  TEMPERATURE
   S1   2481  CRITICAL(W)SOLUTION(W)TEMPERATURE
? s acrylic or acrylate or acrylamid?

      248937  ACRYLIC
      227165  ACRYLATE
       85633  ACRYLAMID?
   S2  468464  ACRYLIC OR ACRYLATE OR ACRYLAMID?
? s s1 and s2

        2481  S1
      468464  S2
   S3    401  S1 AND S2
? s nucleic(w)acid or DNA or RNA

Processing
Processing
      631124  NUCLEIC
     4723157  ACID
      412234  NUCLEIC(W)ACID
     1699768  DNA
      861991  RNA
   S4 2399210  NUCLEIC(W)ACID OR DNA OR RNA
? s s3 and s4

        401  S3
     2399210  S4
   S5     3  S3 AND S4
? s protein or peptide

Processing
     3292760  PROTEIN
      693605  PEPTIDE
   S6 3731731  PROTEIN OR PEPTIDE
? s s3 and s6

        401  S3
     3731731  S6
   S7    12  S3 AND S6
? s s5 or s7

          3  S5
         12  S7
   S8    15  S5 OR S7
? rd

>>>Duplicate detection is not supported for File 351

>>>Records from unsupported files will be retained in the RD set
...completed examining records
   S9    14  RD (unique items)
? s s9 and py<=1996

Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
Processing
         14  S9
   47730322  PY<=1996
   S10   12  S9 AND PY<=1996
? s isolat? or purif?

Processing
     2144044  ISOLAT?
     1328708  PURIF?
   S11 2907675  ISOLAT? OR PURIF?
? s s3 and s11

        401  S3
     2907675  S11
   S12     8  S3 AND S11
? rd

>>>Duplicate detection is not supported for File 351.

>>>Records from unsupported files will be retained in the RD set
...completed examining records
   S13     5  RD (unique items)
? t s10/3,ab/1-12


10/3,AB/1    (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
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05106864    EMBASE No: 1992247080
 Formation of multicellular spheroids composed of rat hepatocytes
 Ueno K.; Miyashita A.; Endoh K.-I.; Takezawa T.; Yamazaki M.; Mori Y.;
Satoh T.
 Lab. of Biochemical Pharmacology, Faculty of Pharmaceutical Sciences,
 Chiba University, 1-33 Yayoi-cho,Inage-ku, Chiba 263 Japan
 Research Communications in Chemical Pathology and Pharmacology ( RES.
 COMMUN. CHEM. PATHOL. PHARMACOL. ) (United States) 1992, 77/1
(107-120)

 CODEN: RCOCB  ISSN: 0034-5164
 DOCUMENT TYPE: Journal; Article
 LANGUAGE: ENGLISH  SUMMARY LANGUAGE: ENGLISH

 A novel method for the preparation of spheroids containing two types of
cells (hetero-spheroid) has been successfully developed by using a
collagen- conjugated thermo-responsive polymer, poly-N-isopropyl
%%%%acrylamide%%%%, as a cell substratum. The hetero-spheroid was prepared
by
detaching the confluent monolayer composed of parenchymal and
non-parenchymal rat liver cells at a temperature below lower
%%%%critical%%%%
%%%%solution%%%% %%%%temperature%%%% and culturing it on the
non-adhesive
substratum. The hetero-spheroid had activity in albumin secretion and PNPA
hydrolase activity over a period of 60 days in dishes. These findings
suggest that this spheroid formation system is a useful model of an
alternative to animal tests of hepatotoxicity.


10/3,AB/2    (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1999 Dialog Corporation. All rts. reserv.

08614336  95290573
 Mechanism of cell detachment from temperature-modulated,
hydrophilic-hydrophobic polymer surfaces.
 Okano T; Yamada N; Okuhara M; Sakai H; Sakurai Y
 Institute of Biomedical Engineering, Tokyo Women's Medical College,
Japan.
 Biomaterials (ENGLAND) Mar %%%%1995%%%%, 16 (4) p297-303,
ISSN
0142-9612  Journal Code: A4P
 Languages: ENGLISH
 Document type: JOURNAL ARTICLE
 Poly(N-isopropylacrylamide) (PIPAAm), exhibiting a lower
%%%%critical%%%%
%%%%solution%%%% %%%%temperature%%%% (LCST) at 25 degrees C in
physiological
phosphate buffered saline solution (pH 7.4) and at 32 degrees C in pure
water, was grafted onto the surfaces of commercial polystyrene cell culture
dishes. This PIPAAm-grafted surface exhibited hydrophobic surface
properties at temperatures over the LCST and hydrophilic surface properties
below the LCST. Endothelial cells and hepatocytes attached and proliferated
on PIPAAm-grafted surfaces at 37 degrees C, above the LCST. The cultured
cells were readily detached from these surfaces by lowering the incubation
temperature without the usual damage associated with trypsinization. In
this case, the optimum temperature for cell detachment was 10 degrees C for
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hepatocytes and 20 degrees C for endothelial cells. Cell detachment was partially inhibited by sodium azide treatment, suggesting that cell metabolism directly affects cell detachment. Morphological changes of the adherent cells during cell detachment experiments indicated further involvement of active cellular metabolic processes. Cells detached from hydrophobic-hydrophilic PIPAAm surfaces not only via reduced cell-surface interactions caused by the spontaneous hydration of grafted PIPAAm chains, but also by active cell morphological changes which were a function of cell metabolism.

10/3,AB/3 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1999 Dialog Corporation. All rts. reserv.

08125842 95178611
Temperature-responsive bioconjugates. 3. Antibody-poly (N-isopropylacryla mide) conjugates for temperature-modulated precipitations and affinity bioseparations.
Takei YG, Matsukata M, Aoki T, Sanui K, Ogata N, Kikuchi A, Sakurai Y, Okano T
Department of Chemistry, Faculty of Science and Technology, Sophia University, Tokyo, Japan.
Bioconjug Chem (UNITED STATES) Nov-Dec %%%1994%%%, 5 (6) p577-82,
ISSN 1043-1802 Journal Code: A1T
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Immunoglobulin G (IgG) has been modified by poly(N-isopropylacrylamide) (PIPAAm) to create a novel bioconjugate which exhibits reversible phase transition behavior at 32 degrees C in aqueous media. A terminal carboxyl group introduced into PIPAAm molecule by polymerization of IPAAm with 3-mercaptopropionic acid was used for conjugation to IgG via coupling reaction of activated ester with %%%protein%%% amino group. These conjugates exhibited rapid response to changes in solution temperature and significant phase separation above a %%%critical%%% %%%solution%%% %%%temperature%%% corresponding to that for the original PIPAAm. These conjugates bound to antigen quantitatively in aqueous system, and antigen-bound complex also demonstrated phase separation and precipitation above a critical temperature. Precipitate was reversibly redissolved in cold buffer. Though particular conjugate which includes 12 molecules of PIPAAm with 6,100 molecular weight suppressed more than 95% of Fc-dependent binding with %%%protein%%% A, it retained approximately 60% of original specific antigen binding activity. It was manifested that polymer content of conjugate was 20-30 wt% for the case of 6,100 molecular weight of PIPAAm to demonstrate specific antigen binding activity most effectively and to reduce Fc-dependent binding with %%%protein%%% A. IgG-PIPAAm conjugates were soluble in water and formed antigen-bound complex in homogeneous solution system below a critical temperature. These conjugates were separated from solution and other solutes corresponding to PIPAAm nature and scarcely bound to antigen above a critical temperature. It is revealed that temperature-responsive PIPAAm conjugated to biomolecule operated as a switching molecule. These phenomena are attractive for not only reversible bioreactors and %%%protein%%% separations but also carrier substrate to localize biomolecules such as drugs, peptides and hormones in a living body.

10/3,AB/4 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1999 Dialog Corporation. All rts. reserv.

08125838 95178602
Site-specific conjugation of a temperature-sensitive polymer to a genetically-engineered %%%protein%%%
Chilkoti A, Chen G, Stayton PS, Hoffman AS
Center for Bioengineering, University of Washington, Seattle 98195.
Bioconjug Chem (UNITED STATES) Nov-Dec %%%1994%%%, 5 (6) p504-7,
ISSN 1043-1802 Journal Code: A1T
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A genetically-engineered mutant of cytochrome b5, incorporating a unique cysteine residue, was conjugated to maleimide-terminated oligo(N-isopropylacrylamide). The conjugation of the %%%protein%%% by reaction of the cysteine residue, precisely positioned by site-directed mutagenesis techniques, with an activated oligomer containing only one reactive end group in the oligomer chain permits the site-specific and stoichiometric conjugation of the oligomer with the %%%protein%%%. The %%%protein%%%-oligomer conjugate was shown to exhibit lower %%%critical%%% %%%solution%%% %%%temperature%%% (LCST) behavior, similar to the free oligomer. Furthermore, the LCST behavior of the %%%protein%%%-oligomer conjugate is reversible and allows selective precipitation of the conjugate above its LCST.

10/3,AB/5 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1999 Dialog Corporation. All rts. reserv.

07713736 94100255
Temperature-responsive bioconjugates. 2. Molecular design for temperature-modulated bioseparations.
Takei YG, Aoki T, Sanui K, Ogata N, Okano T, Sakurai Y
Department of Chemistry, Faculty of Science and Technology, Sophia University, Tokyo, Japan.
Bioconjug Chem (UNITED STATES) Sep-Oct %%%1993%%%, 4 (5) p341-6,
ISSN 1043-1802 Journal Code: A1T
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We have synthesized carboxyl semitelechelic oligo(N-isopropylacrylamide) (OIPAAm) using radical telomerization with 3-mercaptopropionic acid. This telomerization is also effective for the synthesis of carboxyl semitelechelic co-oligomers of IPAAm with butyl methacrylate (BMA) as hydrophobic or N,N-dimethylacrylamide (DMAAm) as hydrophilic comonomers. All co-oligomers are highly water-soluble at lower temperatures and exhibit phase separation with increasing temperature. Pure OIPAAm exhibits a lower %%%critical%%% %%%solution%%% %%%temperature%%% (LCST) at 32 degrees C, and the LCST for co-oligomers can be controlled to increase over 32 degrees C with increasing DMAAm composition and to decrease below 32 degrees C with increasing BMA composition. OIPAAm was grafted to bovine serum albumin (BSA) and bovine plasma fibrinogen (BPF) by activated ester-amine coupling. These OIPAAm-biomolecule conjugates maintain their temperature responses, are soluble in cold water, and precipitate over a range of temperatures related to oligomer content. Conjugates could be selectively precipitated and independently separated from conjugate solution mixtures with increasing temperature. In this case, the number of OIPAAm molecules attached to a conjugate affects the aggregate sizes of precipitated conjugates in mixtures. Both conjugate mixture ratios and solution concentrations influence the contamination of oligo(IPAAm-co-DMAAm)-BSA conjugates in precipitated oligo(IPAAm-co-BMA)-BPF conjugates. Furthermore, precipitated conjugates separated using centrifugation and filtration redissolve in water and maintain their biofunctionality, indicating the potential of strategy in reversible bioreactors and %%%protein%%% separations.

10/3,AB/6 (Item 5 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1999 Dialog Corporation. All rts. reserv.

06574783 91215198
Polymer-%%%protein%%% conjugates. II. Affinity precipitation separation of human immunogammaglobulin by a poly(N-isopropylacrylamide)-%%%protein%%% A conjugate
Chen JP, Hoffman AS
Center for Bioengineering, FL-20, University of Washington, Seattle 98195.
Biomaterials (ENGLAND) Nov %%%1990%%%, 11 (9) p631-4, ISSN

0142-9612
Journal Code: A4P
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The conjugate of %%%protein%%% A with poly(N-isopropylacrylamide) was
synthesized and utilized in the separation of human immunogammaglobulin. In the separation process, poly(N-isopropylacrylamide)-%%%protein%%% A
conjugate binds to the immunoglobulin with high specificity to form the poly(N-isopropylacrylamide)-%%%protein%%% A/immunoglobulin complex. The
complex can be conveniently separated by precipitation upon heating above the lower %%%critical%%% %%%solution%%% %%%temperature%%% of the
poly(N-isopropylacrylamide)-%%%protein%%% A/immunogammaglobulin complex.
The separation capacity of poly(N-isopropylacrylamide)-%%%protein%%% A
conjugate for human immunogammaglobulin was studied and it was demonstrated
that approximately one out of every four %%%protein%%% A molecules binds to
human immunogammaglobulin with a dissociation constant (Ks) of 3 x 10(-6) M. The affinity precipitation separation of human immunogammaglobulin is a rapid process which avoids the need for chromatographic columns. It can also be designed to run in a continuous mode.

10/3,AB/7 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
(c) 1999 Derwent Publ Ltd. All rts. reserv.

0115835 DBA Accession No.: 91-03477 PATENT
New substrate carrier for cell culture - temperature-responsive polymer having a lower %%%critical%%% %%%solution%%% %%%temperature%%% for cell
detachment
PATENT ASSIGNEE: Grace %%%1990%%%
PATENT NUMBER: AU 9051289 PATENT DATE: 900927 WPI ACCESSION NO.:
90-348740 (9047)
PRIORITY APPLIC. NO.: JP 9049155 APPLIC. DATE: 900228
NATIONAL APPLIC. NO.: AU 9051289 APPLIC. DATE: 900313
LANGUAGE: English
ABSTRACT: A new cell culture substrate comprises a temp.-responsive polymer
(I) having a lower critical solution temp. than the culture temp. (I) may be e.g. poly-N-substituted %%%acrylamide%%% derivatives, poly-N-substituted %%%methacrylamide%%% derivatives, their copolymers,
polyvinylmethyl ether or partially acetylated polyvinyl alcohol. The cell culture substrate may also comprise substances which control cell functions such as extracellular matrix e.g. collagen, fibronectin, vitronectin, laminin, proteoglycan, glycosaminoglycan, thrombospondin, gelatin, lectin, anchorage %%%oligopeptide%%% or adhesive %%%protein%%% isolated from shellfish. The temp. of (I) may be changed to detach cells and form cell sheets and/or cell clusters, which result in a high cell density, high cellular activity and excellent self-supporting properties. The cell cultures may then be used (i) for the production of cell products, (ii) as prostheses for diseased or damaged living tissues and organs, and (iii) as simulators to evaluate the toxicity and activity of drugs. (40pp)

10/3,AB/8 (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0112229 DBA Accession No.: 90-14920 PATENT
Cell culture substrate - temperature-responsive polymer carrier with lower %%%critical%%% %%%solution%%% %%%temperature%%% than the culture
temperature, for animal anchorage-dependent cell culture
PATENT ASSIGNEE: Grace %%%1990%%%
PATENT NUMBER: EP 387975 PATENT DATE: 900919 WPI ACCESSION NO.: 90-284198
(9038)
PRIORITY APPLIC. NO.: JP 89248967 APPLIC. DATE: 890925
NATIONAL APPLIC. NO.: EP 90250065 APPLIC. DATE: 900312
LANGUAGE: English
ABSTRACT: A new cell culture carrier comprises a temp.-responsive polymer,
with a lower critical solution temp. than the culture temp. The polymer may be e.g. a poly-N-substitutive %%%acrylamide%%% derivative, a poly-N-substituted %%%methacrylamide%%% derivative, a copolymer of
these, a polymethylvinyl ether or a partially acetylated polyvinyl alcohol. The carrier may also contain active substances, e.g. extracellular matrix (collagen, fibronectin, vitronectin, laminin, proteoglycan, glycosaminoglycan, thrombospondin), gelatin, lectin, anchorage %%%oligopeptide%%% or shellfish adhesive %%%protein%%%. The
polymer may be coated on the surface of a solid matrix, and may be in the form of a film, sheet, particle, fiber, flake, sponge or microbead. In a solid state, the carrier acts as an anchor for adhesion and proliferation of cells at the cell culture temp., and may be solubilized by reducing the temp. below the lower critical solution temp. to allow detachment of cells for passage. The cell sheet and/or cell clusters obtained show high cell density, high activity and excellent self-supporting properties for large-scale culture. (19pp)

10/3,AB/9 (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0070829 DBA Accession No.: 88-01177 PATENT
Processes using polymer gel with %%%critical%%% %%%solution%%% %%%temperature%%% - for separation or delivery of substances or control of reactions
PATENT ASSIGNEE: Genetic-Systems %%%1987%%%
PATENT NUMBER: WO 8706152 PATENT DATE: 871022 WPI ACCESSION NO.:
87-306772 (8743)
PRIORITY APPLIC. NO.: US 948377 APPLIC. DATE: 861231
NATIONAL APPLIC. NO.: WO 87US886 APPLIC. DATE: 870415
LANGUAGE: English
ABSTRACT: The separation of a substance (I) from a solution is effected by treating the solution with a polymer gel having a critical solution temp. (CST gel), in which a binding partner for (I) is immobilized, and adjusting the temp. of the mixture to allow the binding partner to bind (I), or by treating the solution with a CST gel with a pore size adapted to retain (I), and adjusting the temp. so that the gel incorporates (I). The CST gel may also be used for selective control of a reaction when the gel contains an an immobilized biochemically active component. The surface wettability of a CST gel, optionally coated onto a polymer support, is altered by adjusting the temp. of the gel through its critical solution temp. The processes described are used to separate e.g. antigens, %%%DNA%%%, %%%RNA%%%, proteins or hormones, and
for controlling enzyme-catalyzed reactions etc. The gel is especially a homo- or copolymer of a hydrophobic N-substituted (meth) %%%acrylamide%%%, hydroxyalkyl cellulose, polyethylene oxide, or a polymer forming a gel with an upper critical solution temp., especially %%%polyacrylic%%% acid or polyvinyl alcohol. (61pp)

10/3,AB/10 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 1999 American Chemical Society. All rts. reserv.

122266138 CA: 122(22)266138g JOURNAL
A new temperature- and pH-responsive copolymer for possible use in protein conjugation
AUTHOR(S): Chen, Guohua; Hoffman, Allan S.
LOCATION: Center Bioengineering, Univ. Washington, Seattle, WA, 98195, USA
JOURNAL: Macromol Chem Phys DATE: 1995 VOLUME: 196 NUMBER: 4
PAGES: 1251-9 CODEN: MCHPES ISSN: 1022-1352 LANGUAGE: English

10/3,AB/11 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 1999 American Chemical Society. All rts. reserv.

118039990 CA: 118(6)39990c JOURNAL
Fluorescence analysis for thermosensitive hydrogel microspheres
AUTHOR(S): Fujimito, K.; Nakajima, Y.; Kashiwabara, M.; Kawaguchi, H.
LOCATION: Fac. Sci. Technol., Keio Univ., Yokohama, Japan, 223
JOURNAL: Polym. Int. DATE: 1993 VOLUME: 30 NUMBER: 2
PAGES: 237-41
CODEN: PLYIEI ISSN: 0959-8103 LANGUAGE: English

10/3,AB/12 (Item 3 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 1999 American Chemical Society. All rts. reserv.

111228614 CA: 111(25)228614z PATENT
Temperature-sensitive polymer gels for delivering, removing, or reacting substances
INVENTOR(AUTHOR): Hoffman, Allan S.; Monji, Nobuo
LOCATION: USA
ASSIGNEE: Genetic Systems Corp
PATENT: PCT International, WO 8706152 A1 DATE: 871022
APPLICATION: WO 87US886 (870415) *US 853697 (860417) *US 948377 (861231)
PAGES: 63 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: B01D-015/00A
DESIGNATED COUNTRIES: AU; DK; JP; KR DESIGNATED REGIONAL: CH; DE; FR; GB
; IT; NL; SE
? t s13/3,ab/1-5

13/3,AB/1 (Item 1 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)
(c) 1999 BIOSIS. All rts. reserv.

11494725 BIOSIS NO.: 199800276057
Effect of molecular architecture of hydrophobically modified poly(N-isopropylacrylamide) on the formation of thermoresponsive core-shell micellar drug carriers.

AUTHOR: Chung J E; Yokoyama M; Aoyagi T; Sakurai Y; Okano T(a)
AUTHOR ADDRESS: (a)Inst. Biomed. Eng., Tokyo Women's Med. Coll., Kawada-cho
8-1, Shinjuku-ku, Tokyo 162, Japan

JOURNAL: Journal of Controlled Release 53 (1-3):p119-130 April 30, 1998
ISSN: 0168-3659
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Terminal-incorporation of hydrophilic or hydrophobic groups dramatically influences the phase transition of poly(N-isopropylacrylamide) (PIPAAm) because of a critical role of the polymer chain ends in initiation of the phase transition. Incorporation of an amino or hydroxyl group to one end of PIPAAm remarkably raised the LCST (lower %%%critical%%%% %%%%solution%%%% %%%%temperature%%%%) and slowed down the rate of the phase transition, and these effects were more pronounced as the mole fraction of hydrophilic groups increased compared to the random copolymers of PIPAAm and hydrophilic co-monomers, such as %%%acrylic%%% acid (AAc) or dimethylacrylamide (DMAAm). Hydrophilic effects were more remarkable for hydroxyl groups, due to stronger hydrogen bonding with water. Terminal-modification (hydrophobization) was also more effective in producing hydrophobic effects on the PIPAAm phase transition in comparison with PIPAAm copolymers that were randomly modified along the main chain with hydrophobic co-monomers. Moreover, terminal-located hydrophobic groups were able to form hydrophobic microdomains that were clearly %%%isolated%%% from PIPAAm chains in aqueous media by the aggregation of hydrophobic segments. As a result, the obtained micellar aqueous solution showed the same LCST as pure PIPAAm, while the PIPAAm random copolymer with hydrophobic co-monomers formed incompletely separated microdomains. The LCST for this random copolymer was reduced with increasing hydrophobic co-monomer mole fraction. Hydrophobically terminal-modified PIPAAm produced thermo-responsive core-shell structures that exhibited the same LCST and the same thermal response rate as those of free linear PIPAAm chains. Such polymeric micellar structures show reversible thermoresponsive aggregation/dispersion and deformation/reformation in heating/cooling cycles through the LCST for pure PIPAAm. These properties indicate the possibility of using such a system as a thermoresponsive drug carrier with double targeting mechanisms, in both passive and active manners.

13/3,AB/2 (Item 2 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)
(c) 1999 BIOSIS. All rts. reserv.

10064679 BIOSIS NO.: 199598519597
Rearrangement of esophageal carcinoma cells and stromal fibroblasts in a multicellular spheroid.

AUTHOR: Shima Ichiro; Kubota Sunao; Sasaguri Yasuyuki; Hamada Tetsuo; Arima Nobuyuki; Ito Akira; Morimatsu Minoru
AUTHOR ADDRESS: Dep. Pathol., Univ. Occupational Environmental Health, Sch. Med., Yahatanishi-ku, Kitakyushu 807, Japan

JOURNAL: International Journal of Oncology 7 (4):p795-800 1995
ISSN: 1019-6439
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Using a thermo-responsive polymer, a collagen-conjugated poly-N-isopropyl %%%acrylamide%%% (PNIPAAm) as a substratum, we developed hetero-multicellular spheroids (MCS) composed of esophageal squamous carcinoma cells (TE10) and esophageal fibroblasts %%%isolated%%% from esophageal carcinoma tissue. PNIPAAm is insoluble in water above the lower %%%critical%%% %%%solution%%% %%%temperature%%% (LCST, about 32 degree C) and becomes reversibly solubilized below the LCST. Taking advantage of this conversion, we prepared three types of hetero-MCS as follows: F/T-multicellular spheroids made by seeding of TE10 onto a preprepared monolayer of fibroblasts; T/F-multicellular spheroids made by seeding of fibroblasts onto a preprepared monolayer of TE10; Mixed-multicellular spheroid made from a monolayer of mixed fibroblasts and TE10. Histological and immunohistochemical examinations revealed that fibroblasts and TE10 cells were intermingled in 5-day-old multicellular spheroids but were divided into three zones in 1- or 2 week-cultured spheroids: into an external zone composed almost entirely of TE10 cells that were positive for epithelial membrane antigen (EMA), an intermediate zone composed of fibroblasts that were positive for vimentin, and a necrotic zone showing variable evidence of cell injury. This distribution was observed in all three types of the spheroids described above. These findings indicate that TE10 cells are able to migrate and cover the surface to make organizing spheroid, thus mimicking in vivo structures. We conclude that the three-dimensional culture system using a thermo-responsive polymer, which enables coculturing with different types of cells as a heteromulticellular spheroid, is a useful model to examine the interaction between carcinoma cells and their stroma cells as it occurs in vivo.

13/3,AB/3 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
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08766510 96351753
Synthesis and %%%purification%%% of thermally sensitive oligomer-enzyme conjugates of poly(N-isopropylacrylamide)-trypsin.
Ding Z; Chen G; Hoffman AS
Center for Bioengineering, University of Washington, Seattle 98195, USA.
Bioconjug Chem (UNITED STATES) Jan-Feb 1996, 7 (1) p121-6, ISSN
1043-1802 Journal Code: A1T
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Using chain-transfer polymerization, we have synthesized oligomers of poly(N-isopropylacrylamide) [poly(NIPAAm)] with one carboxyl group at the end of each oligomer chain. The lower %%%critical%%% %%%solution%%% %%%temperature%%% (LCST) of the oligomers is very close to that of homo-poly(NIPAAm) lacking the end carboxyl group. The carboxyl groups

were
activated in methylene chloride using N,N'-dicyclohexyl-carbodiimide (DCC) and N-hydroxysuccinimide (NHS). A conjugate of trypsin with the preactivated oligomer has been prepared. We studied the effect of oligomer to enzyme (O/E) ratio in the feed on the O/E ratio of the conjugate (the average number of oligomer chains conjugated to one trypsin molecule), assuming that only the primary amino groups of lysine residues and the amino terminal of trypsin would react. The O/E ratio of the conjugate was estimated by determination of the remaining primary amine groups on the trypsin molecule. More than 95% of the conjugate can be recovered by thermally induced precipitation.

13/3,AB/4 (Item 1 from file: 351)
DIALOG(R)File 351:DERWENT WPI
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011227892
WPI Acc No: 97-205795/199719
XRAM Acc No: C97-066141
Polymeric gel with upper %%%ocritical%%%% %%%%osolution%%%% %%%%temperature%%%%
in water - which reduces in volume with a drop in temperature, used as %%%%isolating%%%% materials or sealants
Patent Assignee: TANAKA T (TANA-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Main IPC Week
FR 2738252 A1 19970307 FR 9510139 A 19950828 C08L-101/14 199719 B

Priority Applications (No Type Date): FR 9510139 A 19950828
Language, Pages: FR 2738252 (4)

Abstract (Basic): FR 2738252 A
New co-polymeric gel has an upper %%%%critical%%%% %%%%solution%%%% %%%%temperature%%%% in water. Also claimed is a co-polymeric gel with a phase transition which expands in water at a first temperature and reduces in volume at a second (lower) temperature.
Pref. the copolymeric gel is copolymer of %%%%methacrylic%%%% acid and %%%%dimethylacrylamide%%%%.
USE - The gels have applications in industry, particularly as %%%%isolating%%%% materials or sealants.
ADVANTAGE - Previous temperature-sensitive gels had lower critical solution temperatures. This means that they expand at low temperatures and reduce in volume at higher temperatures. The claimed gels have the opposite characteristics.
Dwg.0/0

13/3,AB/5 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0115835 DBA Accession No.: 91-03477 PATENT
New substrate carrier for cell culture - temperature-responsive polymer having a lower %%%%critical%%%% %%%%solution%%%% %%%%temperature%%%% for cell detachment
PATENT ASSIGNEE: Grace 1990
PATENT NUMBER: AU 9051289 PATENT DATE: 900927 WPI ACCESSION NO.: 90-348740 (9047)
PRIORITY APPLIC. NO.: JP 9049155 APPLIC. DATE: 900228
NATIONAL APPLIC. NO.: AU 9051289 APPLIC. DATE: 900313
LANGUAGE: English
ABSTRACT: A new cell culture substrate comprises a temp.-responsive polymer (I) having a lower critical solution temp. than the culture temp. (I) may be e.g. poly-N-substituted %%%%acrylamide%%%% derivatives, poly-N-substituted %%%%methacrylamide%%%% derivatives, their copolymers, polyvinylmethyl ether or partially acetylated polyvinyl alcohol. The cell culture substrate may also comprise substances which control cell functions such as extracellular matrix e.g. collagen, fibronectin, vitronectin, laminin, proteoglycan, glycosaminoglycan, thrombospondin, gelatin, lectin, anchorage oligopeptide or adhesive protein %%%%isolated%%%% from shellfish. The temp. of (I) may be changed to detach cells and form cell sheets and/or cell clusters, which result in a high cell density, high cellular activity and excellent self-supporting properties. The cell cultures may then be used (i) for the production of cell products, (ii) as prostheses for diseased or damaged living tissues and organs, and (iii) as simulators to evaluate the toxicity and activity of drugs. (40pp)
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=> s critical(w)solution(w)temperature

287247 CRITICAL
616728 SOLUTION
869860 TEMPERATURE
L1 222 CRITICAL(W)SOLUTION(W)TEMPERATURE

=> s acrylamid? or acrylic or acrylate

36251 ACRYLAMID?
114138 ACRYLIC
68690 ACRYLATE
L2 143656 ACRYLAMID? OR ACRYLIC OR ACRYLATE

=> s l1 and l2

L3 143 L1 AND L2

=> s l1(p)l2

L4 36 L1(P)L2

=> t l4,cit,rel,ab,1-36

1. 5,852,069, Dec. 22, 1998, Biodegradable plastics and composites from wood; John J. Meister, et al., 523/128; 435/911; 525/54.1; 54.2; 54.24; 527/400; 530/507 [IMAGE AVAILABLE]

US PAT NO: 5,852,069 [IMAGE AVAILABLE] L4: 1 of 36
REL-US-DATA: Division of Ser. No. 400,891, Mar. 8, 1995, Pat. No. 5,741,875, which is a continuation-in-part of Ser. No. 80,006, Jun. 21, 1993, Pat. No. 5,424,382, which is a continuation-in-part of Ser. No. 789,360, Nov. 8, 1991, abandoned.

ABSTRACT:
In this disclosure, there are provided materials which completely degrade in the environment far more rapidly than pure synthetic plastics but which possesses the desirable properties of a thermoplastic: strength, impact resistance, stability to aqueous acid or base, and deformation at higher temperatures. There is provided a method for using the degradable plastic materials in preparing strong, moldable solids. There is further provided a method of making and applications for macromolecular, surface active agents that change the wetting behavior of lignin-containing materials. These surface active agents are used to provide a method of making and applications for synthetic polymers coupled to pieces of a vascular plant using macromolecular surface active agents.

2. 5,811,580, Sep. 22, 1998, Process for the preparation of N-hydrocarbyl-substituted amides via the ritter reaction using solid clay catalysts, Douglas C. Rhubright, 564/128, 126, 129, 130, 131 [IMAGE AVAILABLE]

US PAT NO: 5,811,580 [IMAGE AVAILABLE] L4: 2 of 36

ABSTRACT:
Hydrocarbyl-substituted amides can be prepared in a catalyzed Ritter reaction by contacting a nitrile with a hydrocarbylating agent, in the presence of an acidified clay as the catalyst, under conditions conducive to the formation of the hydrocarbyl-substituted amide.

3. 5,741,875, Apr. 21, 1998, Biodegradable plastics and composites from wood, John J. Meister, et al., 527/400; 435/911; 523/128; 524/9; 525/54.1; 54.2; 54.24; 530/507 [IMAGE AVAILABLE]

US PAT NO: 5,741,875 [IMAGE AVAILABLE] L4: 3 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 80,006, Jun. 21, 1993, Pat. No. 5,424,382, which is a continuation-in-part of Ser. No. 789,360, Nov. 8, 1991, abandoned.

ABSTRACT:
In this disclosure, there are provided materials which completely degrade in the environment far more rapidly than pure synthetic plastics but which possesses the desirable properties of a thermoplastic: strength, impact resistance, stability to aqueous acid or base, and deformation at higher temperatures. There is provided a method for using the degradable plastic materials in preparing strong, moldable solids. There is further provided a method of making and applications for macromolecular, surface active agents that change the wetting behavior of lignin-containing materials. These surface active agents are used to provide a method of making and applications for synthetic polymers coupled to pieces of a vascular plant using macromolecular surface active agents.

4. 5,720,976, Feb. 24, 1998, Thermosensitive liposome and process for preparing the same; Jong-Duk Kim, et al., 424/450; 264/4.1, 4.3, 4.33 [IMAGE AVAILABLE]

US PAT NO: 5,720,976 [IMAGE AVAILABLE] L4: 4 of 36

ABSTRACT:
The present invention provides a thermosensitive liposome which permits temperature-sensitive drug release and exhibits variable release temperatures. The process for preparing a thermosensitive liposome of the invention, comprises a step of coating the surface of a liposome with a copolymer of N-isopropylacrylamide/octadecylacrylate/acrylic acid, by the addition of the copolymer to the liposome suspension in a weight ratio of 1:0.05 to 1:0.2 (liposome:copolymer), and the incubation of the polymer-liposome suspension at a temperature range of 0.degree. to 10.degree. C., for 10 to 14 hours. The thermosensitive liposome of the present invention is able to control the temperature of drug release at a temperature range of above 28.degree. C., preferably at 28.degree. to 36.degree. C., depending on the acrylic acid content in the copolymer of N-isopropylacrylamide/octadecylacrylate/acrylic acid.

5. 5,714,159, Feb. 3, 1998, Hydrogel-forming, self-solvating absorbable polyester copolymers, and methods for use thereof; Shalaby W. Shalaby, 424/426, 78.03, 78.06, 425, 457, 462, 486; 514/506; 525/439, 450; 528/272, 275, 354, 361 [IMAGE AVAILABLE]

US PAT NO: 5,714,159 [IMAGE AVAILABLE] L4: 5 of 36
REL-US-DATA: Division of Ser. No. 421,222, Apr. 13, 1995, Pat. No. 5,612,052.

ABSTRACT:
The present invention provides novel hydrogel-forming, self-solvating, absorbable polyester copolymers capable of selective, segmental association into compliant hydrogels upon contacting an aqueous environment. Methods of using the novel polyester copolymers of the invention in humans are also disclosed for providing a protective barrier to prevent post-surgical adhesion, treatment of defects in conduits such as blood vessels, and controlled release of a biologically active agent for modulating cellular events such as wound healing and tissue regeneration or therapeutic treatment of diseases such as infection of the periodontium, dry socket, bone, skin, vaginal, and nail infections.

6. 5,712,413, Jan. 27, 1998, Process for the preparation of N-hydrocarbyl-substituted amides such as tert-butylacrylamide via the Ritter reaction using solid heteropolyacid catalysts; James D. Burrington, et al., 564/131, 124, 126, 128, 130 [IMAGE AVAILABLE]

US PAT NO: 5,712,413 [IMAGE AVAILABLE] L4: 6 of 36

ABSTRACT:
Hydrocarbyl-substituted amides are prepared by a process comprising contacting a nitrile with a hydrocarbylating agent, such as an alkylating agent, in the presence of a catalyst comprising a heteropolyacid or salt thereof.

7. 5,612,052, Mar. 18, 1997, Hydrogel-forming, self-solvating absorbable polyester copolymers, and methods for use thereof; Shalaby W. Shalaby, 424/426, 78.03, 78.06, 425, 457, 462, 486; 514/506; 525/439, 450; 528/272, 275, 354, 361 [IMAGE AVAILABLE]

US PAT NO: 5,612,052 [IMAGE AVAILABLE] L4: 7 of 36

ABSTRACT:
The present invention provides novel hydrogel-forming, self-solvating, absorbable polyester copolymers capable of selective, segmental

association into compliant hydrogels upon contacting an aqueous environment. Methods of using the novel polyester copolymers of the invention in humans are also disclosed for providing a protective barrier to prevent post-surgical adhesion, treatment of defects in conduits such as blood vessels, and controlled release of a biologically active agent for modulating cellular events such as wound healing and tissue regeneration or therapeutic treatment of diseases such as infection of the periodontium, dry socket, bone, skin, vaginal, and nail infections.

8. 5,521,371, May 28, 1996, Rewritable bar code display medium, and image display method and image display apparatus using the same; Yoshihiko Hotta, et al., 235/487, 494, 900 [IMAGE AVAILABLE]

US PAT NO: 5,521,371 [IMAGE AVAILABLE] L4: 8 of 36
REL-US-DATA: Continuation of Ser. No. 138,981, Oct. 21, 1993, abandoned, which is a division of Ser. No. 726,210, Jul. 5, 1991, Pat. No. 5,298,476.

ABSTRACT:
A rewritable bar code display medium is disclosed, which is composed of a support and a reversible thermosensitive recording layer for reversibly forming bar codes therein formed on the support, which reversible thermosensitive recording layer varies in transparency with change in temperature, and an image display method using the rewritable bar code display medium, and an apparatus for implementing the image display method are also disclosed.

9. 5,517,228, May 14, 1996, Apparatus for displaying a recording medium sheet and printing an image thereon; Makoto Obu, et al., 347/171, 358/296 [IMAGE AVAILABLE]

US PAT NO: 5,517,228 [IMAGE AVAILABLE] L4: 9 of 36

ABSTRACT:
An apparatus for displaying a recording medium sheet and for printing an image thereon includes a plurality of sheets each of which is made of an erasable recording medium, a recording unit for recording information on one of the plurality of sheets, a displaying unit for displaying the sheet on which information is recorded by the recording unit, the sheet being set at a display position when it is displayed, a sheet supplying unit for supplying one of the sheets to the recording unit, and for receiving the displayed sheet from the displaying unit, a sheet passage in which one of the sheets is transported from the displaying unit to the sheet supplying unit via the recording unit, and a sheet passage in which the sheet is transported from the sheet supplying unit to the displaying unit via the recording unit.

10. 5,432,245, Jul. 11, 1995, Method of coating thermoreversible heat-thickening polyacrylamides; Michael R. Roberts, et al., 427/385.5; 430/496, 510; 526/72, 287, 292.2, 304, 307, 307.2 [IMAGE AVAILABLE]

US PAT NO: 5,432,245 [IMAGE AVAILABLE] L4: 10 of 36
REL-US-DATA: Continuation of Ser. No. 742,784, Aug. 8, 1991, abandoned, which is a continuation-in-part of Ser. No. 502,726, Apr. 2, 1990, abandoned.

ABSTRACT:
The invention provides acrylamide polymers that, when mixed with water solvent, provide thermoreversible solutions that form low viscosity melts at temperatures separated by a third region of maximum viscosity.

11. 5,424,382, Jun. 13, 1995, Biodegradable plastics and composites from wood; John J. Meister, et al., 527/400; 435/911; 525/54.1, 54.2, 54.24 [IMAGE AVAILABLE]

US PAT NO: 5,424,382 [IMAGE AVAILABLE] L4: 11 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 789,360, Nov. 8, 1991, abandoned.

ABSTRACT:
In this disclosure, there are provided materials which completely degrade in the environment far more rapidly than pure synthetic plastics but which possesses the desirable properties of a thermoplastic: strength, impact resistance, stability to aqueous acid or base, and deformation at higher temperatures. There is provided a method for using the degradable plastic materials in preparing strong, moldable solids. There is further provided a method of making and applications for macromolecular, surface active agents that change the wetting behavior of lignin-containing materials. These surface active agents are used to provide a method of making and applications for synthetic polymers coupled to pieces of a vascular plant using macromolecular surface active agents.

12. 5,382,371, Jan. 17, 1995, Polymers useful in the recovery and processing of natural resources; G. Allan Stahl, et al., 507/221; 166/283; 507/225, 925 [IMAGE AVAILABLE]

US PAT NO: 5,382,371 [IMAGE AVAILABLE] L4: 12 of 36
REL-US-DATA: Division of Ser. No. 805,283, Dec. 10, 1991, Pat. No. 5,186,257, which is a division of Ser. No. 756,851, Jul. 18, 1985, Pat. No. 5,080,809, which is a continuation-in-part of Ser. No. 568,363, Jan. 9, 1984, Pat. No. 4,951,921, which is a continuation-in-part of Ser. No. 461,707, Jan. 28, 1983, Pat. No. 4,644,020.

ABSTRACT:
Water-soluble polymers comprising an N-vinyl amide such as an N-vinyl lactam are found to be useful in processes wherein the polymer is introduced into a subterranean wellbore.
Polymers useful in the recovery of natural resources are prepared by polymerizing an N-vinyl lactam by free radical initiation with polymerization conducted in an aqueous solution polymerization medium preferably containing a mixture of dissolved electrolytes, or in a polymerization medium consisting essentially of a tertiary alkanol. Copolymers of such N-vinyl lactams with unsaturated amides, and terpolymers prepared by polymerizing an N-vinyl lactam and an unsaturated amide with a selected termonomer compound are also useful when prepared by these methods. The invention also broadly encompasses utilizing a water-soluble polymer comprising at least one of a hydrophilic vinyl-containing sulfonate, phosphonate or ester and/or a hydrophilic N-vinyl lactam for applications under hostile conditions.

13. 5,298,476, Mar. 29, 1994, Rewritable bar code display medium, and image display method and image display apparatus using the same; Yoshihiko Hotta, et al., 503/227; 428/195, 913; 503/208, 209, 214, 217, 225, 226 [IMAGE AVAILABLE]

US PAT NO: 5,298,476 [IMAGE AVAILABLE] L4: 13 of 36

ABSTRACT:
A rewritable bar code display medium is disclosed, which is composed of a support and a reversible thermosensitive recording layer for reversibly forming bar codes therein formed on the support, which reversible thermosensitive recording layer varies in transparency with change in temperature, and an image display method using the rewritable bar code display medium, and an apparatus for implementing the image display method are also disclosed.

14. 5,284,766, Feb. 8, 1994, Bed material for cell culture; Teruo Okano, et al., 435/397, 402 [IMAGE AVAILABLE]

US PAT NO: 5,284,766 [IMAGE AVAILABLE] L4: 14 of 36
REL-US-DATA: Continuation of Ser. No. 476,549, Feb. 7, 1990, abandoned.

ABSTRACT:
Disclosed is a bed material whereby cultured or grown cells are collected or detached from the material without a proteolysis enzyme or chemical material. The bed material comprises a support and a coating thereon, wherein the coating is formed from a polymer or copolymer which has a critical solution temperature to water within the range of 0.degree. C. to 80.degree. C.

15. 5,284,714, Feb. 8, 1994, Photographic support material comprising an antistatic layer and a heat-thickening barrier layer; Charles C. Anderson, et al., 428/474.4; 427/407.1, 419.2; 428/475.2, 702; 430/523, 527 [IMAGE AVAILABLE]

US PAT NO: 5,284,714 [IMAGE AVAILABLE] L4: 15 of 36
REL-US-DATA: Division of Ser. No. 980,416, Nov. 23, 1992, Pat. No. 5,221,598

ABSTRACT:
A base for a photographic element is provided which comprises a support having disposed thereon a vanadium pentoxide antistatic layer and an overlying barrier layer of a heat-thickening polyacrylamide polymer having hydrophilic functionality, and a method for preparing it.

16. 5,262,055, Nov. 16, 1993, Implantable and refillable biohybrid artificial pancreas; You H. Bae, et al., 210/645, 321.75, 321.84, 649

[IMAGE AVAILABLE]

US PAT NO: 5,262,055 [IMAGE AVAILABLE] L4: 16 of 36

ABSTRACT:
An artificial pancreas system which minimizes the volume of the artificial pancreas by not encapsulating each islet is taught wherein the islets are separated and held within a polymeric matrix which is soluble in an aqueous solution below body temperature but insoluble in aqueous solutions at or above body temperature. The polymer-islet mixture is contained in a pouch having access means such as entry and exit ports. The solubility makes it possible to replace the contents of the pouch by solubilizing the matrix simply by lowering the temperature below the LCST. The pouch is constructed of a biocompatible material permeable to insulin and other substances of similar or lesser molecular weight but is impermeable to cellular and humoral components of the body immune system. The islet-polymer matrix can be functionalized to stimulate insulin secretion from the islets using insulinotropic agents such as sulfonylurea. Also, polymeric microparticles which release bioactive agents which either promote vascularization at the pouch membrane outer surface or inhibit macrophage activity can be added to the pouch membrane matrix.

17. 5,221,598, Jun. 22, 1993, Photographic support material comprising an antistatic layer and a heat-thickening barrier layer, Charles C. Anderson, et al., 430/527; 428/473.5, 475.2, 702; 430/523, 530, 533 [IMAGE AVAILABLE]

US PAT NO: 5,221,598 [IMAGE AVAILABLE] L4: 17 of 36

ABSTRACT:
A base for a photographic element is provided which comprises a support having disposed thereon a vanadium pentoxide antistatic layer and an overlying barrier layer of a heat-thickening polyacrylamide polymer having hydrophilic functionality, and a method for preparing it.

18. 5,206,178, Apr. 27, 1993, Membrane affinity concentration immunoassay; Nobuo Monji, et al., 436/518; 435/5, 7.1, 7.92, 7.93, 7.94, 7.95, 180, 971; 436/539, 810 [IMAGE AVAILABLE]

US PAT NO: 5,206,178 [IMAGE AVAILABLE] L4: 18 of 36
REL-US-DATA: Continuation of Ser. No. 108,451, Oct. 20, 1987, abandoned, which is a continuation-in-part of Ser. No. 932,656, Nov. 19, 1986, abandoned.

ABSTRACT:
Methods for determining the presence and/or concentration of an analyte in a biological fluid sample are disclosed. The methods generally include admixing in solution certain polymer/reactant and reporter/reactant conjugates along with the biological fluid sample suspected of containing the analyte, thereby forming ternary complexes. The separation of the complexes from the reaction mixture is achieved through the affinity of certain selected polymer compositions for various solid phases. Upon separation, the amount of reporter activity in the solution may be measured, and therefrom the presence and/or concentration of the analyte determined. Multiple analyses on a biological fluid sample suspected of containing one or more analytes may also be performed, using either a variety of different reporters or selected polymers having varied affinity for the solid phase.

19. 5,186,257, Feb. 16, 1993, Polymers useful in the recovery and processing of natural resources; Allan Stahl, et al., 166/270.1 [IMAGE AVAILABLE]

US PAT NO: 5,186,257 [IMAGE AVAILABLE] L4: 19 of 36
REL-US-DATA: Division of Ser. No. 568,363, Jan. 9, 1984, Pat. No. 4,951,921, which is a continuation-in-part of Ser. No. 461,707, Jan. 28, 1983, Pat. No. 4,644,020.

ABSTRACT:
Water-soluble polymers comprising N-vinyl amide such as an N-vinyl lactam are found to be useful in processes wherein the polymer is introduced into a subterranean wellbore. Polymers useful in the recovery of natural resources are prepared by polymerizing an N-vinyl lactam by free radical initiation with polymerization conducted in an aqueous solution polymerization medium preferably containing a mixture of dissolved electrolytes, or in a polymerization medium consisting essentially of a tertiary alkanol. Copolymers of such N-vinyl lactams with unsaturated amides and terpolymers prepared by polymerizing an N-vinyl lactam and an unsaturated amide with a selected termonomer compound are also useful when prepared by these methods. The invention also broadly encompasses utilizing a water-soluble polymer comprising at least one of a hydrophilic vinyl-containing sulfonate, phosphonate or ester and/or hydrophilic N-vinyl lactam for applications under hostile conditions.

20. 5,147,923, Sep. 15, 1992, Thermotropic biphilic hydrogels and hydroplastics; Karl F. Mueller, 524/555 [IMAGE AVAILABLE]

US PAT NO: 5,147,923 [IMAGE AVAILABLE] L4: 20 of 36
REL-US-DATA: Division of Ser. No. 620,223, Nov. 29, 1990, Pat. No. 5,104,954, which is a continuation-in-part of Ser. No. 343,979, Apr. 26, 1989, abandoned, which is a continuation-in-part of Ser. No. 200,212, May 31, 1988, abandoned, which is a continuation-in-part of Ser. No. 105,070, Oct. 5, 1987, abandoned.

ABSTRACT:
Novel hydrogels and hydroplastics are described which exhibit temperature dependent, reversible phase separations and clear-opaque transitions between 1 degree. and 100 degree. C. These materials consist of linear or crosslinked random copolymers of N,N-dimethylacrylamide with alkyl- and alkoxyalkyl acrylates. The water solubility and water swelling of these polymers is extremely temperature dependent; they show sharply defined clear to opaque transitions in their water swollen state and as soluble polymers show Lower Critical Solution Temperatures (LCST). They are useful in drug delivery systems, absorption and extraction processes and as qualitative thermometers, thermosensors and self-activating sunscreens, for example in greenhouses.

21. 5,109,072, Apr. 28, 1992, Compatible polymer mixtures, Werner Siol, et al., 525/228, 84, 226 [IMAGE AVAILABLE]

US PAT NO: 5,109,072 [IMAGE AVAILABLE] L4: 21 of 36

ABSTRACT:
A compatible polymer mixture of two polymers, consisting essentially of: A) 1-99 wt. % of a copolymer having formula I, and ##STR1## B) 99-1 wt. % of a polyalkyl methacrylate prepared from at least one monmer having formula II ##STR2## wherein R.sub.1 is C.sub.1-4 aliphatic hydrocarbon group, R.sub.2 is hydrogen or methyl, R.sub.3 is a C.sub.2-8 non-cyclic aliphatic hydrocarbon group, x is 10-90 wt. % based on the amount of copolymer I and y is 90-10 wt. % based on the amount of copolymer I.

22. 5,104,954, Apr. 14, 1992, Thermostropic biphilic hydrogels and hydroplastics; Karl F. Mueller, 526/307.7; 524/555; 526/307.5 [IMAGE AVAILABLE]

US PAT NO: 5,104,954 [IMAGE AVAILABLE] L4: 22 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 343,979, Apr. 26, 1989, abandoned, which is a continuation-in-part of Ser. No. 200,212, May 31, 1988, abandoned, which is a continuation-in-part of Ser. No. 105,070, Oct. 5, 1987, abandoned.

ABSTRACT:
Novel hydrogels and hydroplastics are described which exhibit temperature dependent, reversible phase separations and clear-opaque transitions between 1.degree. and 100.degree. C. These materials consist of linear or crosslinked random copolymers of N,N-dimethylacrylamide with alkyl- and alkoxyalkyl acrylates. The water solubility and water swelling of these polymers is extremely temperature dependent; they show sharply defined clear to opaque transitions in their water swollen state and as soluble polymers shown Lower Critical Solution Temperatures (LCST). They are useful in drug delivery systems, absorption and extraction processes and as qualitative thermometers, thermosensors and self-activating sunscreens, for example in greenhouses.

23. 5,080,809, Jan. 14, 1992, Polymers useful in the recovery and processing of natural resources, G. Allan Stahl, et al., 507/221; 166/270.1, 275, 210/701; 507/224, 225, 226, 227, 936 [IMAGE AVAILABLE]

US PAT NO: 5,080,809 [IMAGE AVAILABLE] L4: 23 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 568,363, Jan. 9, 1984, which is a continuation-in-part of Ser. No. 461,707, Jan. 28, 1983.

ABSTRACT:
Water-soluble polymers comprising an N-vinyl amide such as an N-vinyl

lactam are found to be useful in processes wherein the polymer is introduced into a subterranean wellbore.
Polymers useful in the recovery of natural resources are prepared by polymerizing an N-vinyl lactam by free radical initiation with polymerization conducted in an aqueous solution polymerization medium preferably containing a mixture of dissolved electrolytes, or in a polymerization medium consisting essentially of a tertiary alkanol. Copolymers of such N-vinyl lactams with unsaturated amides, and terpolymers prepared by polymerizing an N-vinyl lactam and an unsaturated amide with a selected termonomer compound are also useful when prepared by these methods. The invention also broadly encompasses utilizing a water-soluble polymer comprising at least one of a hydrophilic vinyl-containing sulfonate, phosphonate or ester and/or a hydrophilic N-vinyl lactam for applications under hostile conditions.

24. 5,063,112, Nov. 5, 1991, Impact-resistant methacrylate protective layer for polycarbonate, containing UV absorber, Heinz Gross, et al., 428/412; 264/176.1; 427/160; 428/520; 522; 525/148 [IMAGE AVAILABLE]

US PAT NO: 5,063,112 [IMAGE AVAILABLE] L4: 24 of 36

ABSTRACT:
Multi-layer plastic elements containing a polycarbonate core, with a polymethacrylate layer containing a UV absorber, and modified to be impact-resistant, applied to the core, where the polymethacrylate plastic layer is composed of methacrylate copolymers, which form compatible mixtures with polycarbonate, especially the polycarbonate of bisphenol A, exhibit good adhesion between the polycarbonate and the polymethacrylate. The methacrylate copolymers are methyl methacrylate copolymers with (meth)acrylic monomers which contain carbocyclic substituents in the ester group. The protective layer containing UV absorber is applied to the polycarbonate plastic in thickness from 1 to 500 mu m by coextrusion or by lacquering.

25. 5,057,560, Oct. 15, 1991, Thermotropic copolymer hydrogels from N,N-dimethylacrylamide and methoxy-ethyl (meth) acrylate, Karl F. Mueller, 524/22, 58, 521, 555, 526/307.5, 307.7 [IMAGE AVAILABLE]

US PAT NO: 5,057,560 [IMAGE AVAILABLE] L4: 25 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 343,979, Apr. 26, 1989, abandoned, which is a continuation-in-part of Ser. No. 200,212, May 31, 1988, abandoned, which is a continuation-in-part of Ser. No. 105,070, Oct. 5, 1987, abandoned.

ABSTRACT:
Novel thermotropic hydrogel forming polymers are described, which are ramdom copolymers of N,N-dimethyacrylamide with methoxy-ethyl **acrylate** or methacrylate. The linear polymers exhibit in water a lower-**critical**-**solution**-**temperature** (LCST) between 0.degree. and 70.degree. C. The water swelling of the crosslinked polymers is extremely temperature dependent and the gels show sharply defined clear to opaque transitions. The novel polymers are useful in drug delivery systems, absorption and extraction processes and as qualitative thermometers, thermosensors and self-activating sunscreens, for example for greenhouses.

26. 4,951,921, Aug. 28, 1990, Polymers useful in the recovery and processing of natural resources, G. Allan Stahl, et al., 166/270, 270.1, 275, 295, 507/224, 225, 226, 229, 935, 523/130, 131 [IMAGE AVAILABLE]

US PAT NO: 4,951,921 [IMAGE AVAILABLE] L4: 26 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 461,707, Jan. 28, 1983, Pat. No. 4,644,020

ABSTRACT:
Water-soluble polymers comprising an N-vinyl lactam are found to be useful in processes wherein the polymer is introduced into a subterranean wellbore.
Polymers useful in the recovery of natural resources are prepared by polymerizing an N-vinyl lactam by free radical initiation with polymerization conducted in an aqueous solution polymerization medium preferably containing a mixture of dissolved electrolytes, or in a polymerization medium consisting essentially of a tertiary alkanol. Copolymers of such N-Vinyl lactams with unsaturated amides, and terpolymers prepared by polymerizing an N-vinyl lactam and an unsaturated amide with a selected termonomer compound are also useful when prepared by these methods. The invention also broadly encompasses utilizing a water soluble polymer comprising at least one of a hydrophilic vinyl-containing sulfonate and a hydrophilic N-vinyl lactam under hostile conditions.

27. 4,912,032, Mar. 27, 1990, Methods for selectively reacting ligands immobilized within a temperature-sensitive polymer gel; Allan S. Hoffman, et al., 435/7.1, 6, 7.8, 436/518, 519, 539, 540, 824 [IMAGE AVAILABLE]

US PAT NO: 4,912,032 [IMAGE AVAILABLE] L4: 27 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 853,697, Apr. 17, 1986, abandoned, and a continuation-in-part of Ser. No. 854,831, Apr. 28, 1986, Pat. No. 4,780,409, which is a continuation-in-part of Ser. No. 729,510, May 2, 1985, abandoned.

ABSTRACT:
Methods for delivering substances into, removing substances from, or reacting substances with a selected environment utilizing polymer gels or coatings characterized by a critical solution temperature (CST) are disclosed. The CST as well as the pore structure, pore size, pore distribution, and absorbing capacity of the gel may be selectively controlled. The substances may be physically or chemically immobilized within the polymer gels. In addition, a method for altering the surface wettability of CST polymers is also disclosed.

28. 4,849,479, Jul. 18, 1989, Compatible polymer blends, Werner Siol, et al., 525/216, 227, 228 [IMAGE AVAILABLE]

US PAT NO: 4,849,479 [IMAGE AVAILABLE] L4: 28 of 36

ABSTRACT
Compatible polymer mixtures of a polymer component which contains cyclohexyl (meth)acrylate as a monomer and a polymer component which contains .alpha.-methyl styrene as a monomer

29. 4,828,701, May 9, 1989, Temperature-sensitive method of size-selective extraction from solution, Edward L. Cussler, 210/634, 670, 689, 774 [IMAGE AVAILABLE]

US PAT NO: 4,828,701 [IMAGE AVAILABLE] L4: 29 of 36
REL-US-DATA: Continuation of Ser. No. 791,522, Oct. 25, 1985, abandoned, which is a continuation-in-part of Ser. No. 526,275, Aug. 25, 1983, Pat. No. 4,555,344, Nov. 26, 1985.

ABSTRACT:
A separation method utilizing the ability of temperature-sensitive cross-linked polymer gels to selectively extract solvent from a solution of a macromolecular material. A feed solution containing macromolecules is added to a small amount of gel. The gel swells to absorb the low molecular weight solvent, but it cannot absorb the macromolecules. The raffinate, which is now a concentrated macromolecular solution, is drawn off. To regenerate, the filtered gel is warmed, so that its volume decreases sharply. This suddenly decreased volume occurs because the gel is near a critical point. The solvent is removed from the shrunken gel. The temperature of the gel is then lowered, more feed solution is added, and the cycle is begun again.

30. 4,780,409, Oct. 25, 1988, Thermally induced phase separation immunoassay; Nobuo Monji, et al., 435/7.36, 5, 7.32, 7.8, 7.94, 971, 973; 436/519, 539, 540, 824, 827 [IMAGE AVAILABLE]

US PAT NO: 4,780,409 [IMAGE AVAILABLE] L4: 30 of 36
REL-US-DATA: Continuation-in-part of Ser. No. 729,510, May 2, 1985, abandoned

ABSTRACT
An immunoassay in which a thermally induced phase separation is used to effect the separation of specifically bound reactants from free reactants is disclosed. A first reactant is conjugated to a temperature-sensitive polymer to form a polymer/reactant conjugate, and a second reactant is conjugated to a reporter to form a reporter/reactant conjugate. The polymer/reactant, reporter/reactant, and biological fluid samples suspected of containing the analyte are admixed in solution at a temperature other than that at which the polymer will precipitate. Specific binding is allowed to occur, thereby forming a ternary complex. The salt concentration of the adjusted solution is then adjusted to a concentration sufficient to cause the complex to precipitate from the solution, the amount of reporter activity in the precipitated complex or in the solution measured and the presence and/or concentration of the

analyte therefrom determined. Alternatively, the first reactant may be conjugated to a monomer and subsequently copolymerized with additional monomers to yield a temperature-sensitive copolymer. Multiple analyses may also be performed on a single sample by choosing a variety of polymers, each polymer having a different specific binding partner conjugated thereto and a different critical solution temperature. By altering the temperature and/or the salt concentration of the solution incrementally, the reporter associated with each of the complexes precipitated with each temperature or concentration increment may be measured, and the presence and/or concentration of each of the analytes determined.

31. 4,777,492, Oct. 11, 1988, Thermal recording method, Toshikazu Ohnishi, et al., 346/135.1; 430/19, 945 [IMAGE AVAILABLE]

US PAT NO: 4,777,492 [IMAGE AVAILABLE] L4: 31 of 36

ABSTRACT:
A recording method utilizing a thin blended layer of two or more polymers which assumes a mutually dissolved transparent state below a predetermined temperature but a phase-separated opaque state above this temperature, in which a halftone reproduction is achieved through control of temperature applied to the thin layer.

32. 4,734,359, Mar. 29, 1988, Thermal recording material for display and image display device utilizing the same; Yoshihiro Oguchi, et al., 346/135.1, 21; 428/195, 913; 430/286.1; 503/200, 201 [IMAGE AVAILABLE]

US PAT NO: 4,734,359 [IMAGE AVAILABLE] L4: 32 of 36

ABSTRACT:
Thermal recording material has a plate- or film-formed polymer blend layer which is in a mutually dissolved transparent state below a certain temperature and in a phase-separated opaque state above said temperature. This thermal recording material is employed in an image display device, which is provided, in succession, with a recording heater movable along the recording material, an image display unit, a uniform heater and a gradual cooler for image erasure.

33. 4,731,417, Mar. 15, 1988, Multicomponent resin composition variable in light transmittance with temperature, Seizo Miyata, et al., 525/200, 146, 185, 199, 206, 214, 227, 229, 230, 231, 238, 241 [IMAGE AVAILABLE]

US PAT NO: 4,731,417 [IMAGE AVAILABLE] L4: 33 of 36

ABSTRACT:
Disclosed is a multicomponent resin composition which is essentially a blend of three polymers, each of which may be a copolymer, and undergoes a change in light transmittance and color with temperature. The first and second polymers are chosen in combination such that a blend thereof exhibits a phase diagram in which a lower critical solution temperature appears, and the third polymer is one which has mutual solubility, at least partially, with either or both of the first and second polymers. For example, polymethyl methacrylate and a copolymer of vinylidene fluoride and hexafluoroacetone, as the first and second polymers, and polyvinyl acetate are blended together. The phase separation temperature or coloring temperature of the multicomponent resin composition depends on the amount of the third polymer, and opacifying and coloring of the resin composition caused by heating become irreversible by cooling when the amount of the third polymer is sufficient. The multicomponent resin composition is useful as a thermal-mode information storage material and also as a light shield material.

34. 4,644,020, Feb. 17, 1987, Production of high molecular weight vinyl lactam polymers and copolymers, G. Allan Stahl, 522/79, 166/295, 210/728, 734, 735, 507/123, 225, 229, 936, 522/59, 60, 66, 84, 167, 175, 911, 523/130, 131, 524/779, 526/219, 219.1, 219.6, 227, 238, 264 [IMAGE AVAILABLE]

US PAT NO: 4,644,020 [IMAGE AVAILABLE] L4: 34 of 36

ABSTRACT:
Water-soluble polymers comprising an N-vinyl lactam are found to be useful in processes wherein the polymer is introduced into a subterranean wellbore.
Polymers useful in the recovery of natural resources are prepared by polymerizing an N-vinyl lactam by free radical initiation, with polymerization conducted in an aqueous solution polymerization medium preferably containing a mixture of dissolved electrolytes, or in a polymerization medium consisting essentially of a tertiary alkanol. Copolymers of such N-vinyl lactams with unsaturated amides, and terpolymers prepared by polymerizing an N-vinyl lactam and an unsaturated amide with a selected termonomer compound are also useful when prepared by these methods.

35. 4,536,294, Aug. 20, 1985, Polymeric flocculants, James E. Guillet, et al., 210/730; 208/424; 209/5, 210/734, 737, 907 [IMAGE AVAILABLE]

US PAT NO: 4,536,294 [IMAGE AVAILABLE] L4: 35 of 36

ABSTRACT:
There is provided a flocculating process, especially for clay-water suspensions, in which high molecular weight polymers of N-loweralkyl substituted acrylamides and methacrylamides are used as flocculating agent. There are also provided novel polymeric flocculating agents which have the property of exhibiting a critical flocculation temperature, below which they will cause flocculation of suspended solids but above which they are ineffective as flocculants.

36. 4,374,190, Feb. 15, 1983, Erasable intermediate diazo-type paper, John Y. Hur, 430/19; 428/411.1, 425.1, 512, 513, 913; 430/160, 169 [IMAGE AVAILABLE]

US PAT NO: 4,374,190 [IMAGE AVAILABLE] L4: 36 of 36
REL-US-DATA: Continuation of Ser. No. 946,896, Sep. 28, 1978, abandoned.

ABSTRACT:
A non-crinkling, wrinkling or curling erasable diazo-type intermediate material comprising a flexible light transmitting substrate, a flexible barrier layer on the substrate comprising an aliphatic organic alcohol insoluble elastomeric or thermoplastic material coated on the substrate in a non-aqueous medium and dried, and a photosensitive layer overlaying the barrier layer comprising an aliphatic alcohol soluble polymer resin binder, a diazo dye and an azo coupler, the photosensitive composition being dissolved in a non-aqueous solvent, coated and dried.

=> log y

U.S. Patent & Trademark Office LOGOFF AT 14:33:10 ON 05 APR 1999

Connection closed by remote host

08/945731
ATH # 5

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    Set  Items  Description
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? s dna or nucleic(w)acid

Processing
Processing
      1671782  DNA
       727815  NUCLEIC
      4803317  ACID
       474942  NUCLEIC(W)ACID
    S1 1929427  DNA OR NUCLEIC(W)ACID
? s acrylamide

    S2  141030  ACRYLAMIDE
? s purification

    S3  838049  PURIFICATION
? s s1(10w)s3

      1929427  S1
       838049  S3
    S4   41062  S1(10W)S3
? s s4(10w)s2

       41062  S4
      141030  S2
    S5     37  S4(10W)S2
? rd

>>>Duplicate detection is not supported for File 351.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records
    S6     37  RD (unique items)
? s s6 and py<=1995

>>>File 10 processing for PY=  : PY=1995
>>>  started at PY=A stopped at PY=1963
Processing
Processing
Processing
Processing
         37  S6
     45202096  PY<=1995
    S7     15  S6 AND PY<=1995
? t s7/3,ab/1-15


 7/3,AB/1    (Item 1 from file: 5)
DIALOG(R)File  5:BIOSIS PREVIEWS(R)
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12032802    BIOSIS Number: 98632802
  Detection of D1S80 and HLA DQ-alpha from hair and dandruff by simple and
rapid method
  Wang X; Sawaguchi T; Sawaguchi A
  Dep. Legal Med., Tokyo Women's Med. Coll., Tokyo, Japan
  Research and Practice in Forensic Medicine 38 (0). 1995.  43-46.
  Full Journal Title:  Research and Practice in Forensic Medicine
  ISSN: 0289-0755
  Language: JAPANESE
  Print Number: Biological Abstracts Vol. 101 Iss. 004 Ref. 048547
  DNA was extracted from hair root sheath and dandruff by using InstaGene
purification matrix buffer within 30 min. PCR amplification of D1S80 and
HLA DQ-alpha loci were carried out in the same condition with 29 cycles of
denaturing at 94 degree C for 60 sec, annealing at 65 degree C for 60 sec,
and extention at 72 degree C for 60 sec. D1S80 was detected by using 5%
polyacrylamide gel electrophoresis followed by ethidium bromide staining,
and HLA DQ-alpha by using dot hybridization with allele-specific
oligonucleotide probe. D1S80 and HLA DQ-alpha were detected from one
hair
root or two dandruff. All procedures of the detection were performed within
four hours.


 7/3,AB/2    (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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181376  DBA Accession No.: 95-05593  PATENT
New nucleic acid (NA) extraction method - %%%DNA%%%
%%%purification%%%
  method using an adsorbent of dextran, %%%acrylamide%%% or
CM-cellulose
AUTHOR: Tauchner P; Heunemann D; Rauh P; Hermann G; Schmidt J;
  Jaenichen H; von Uexkuell-Gueldenband-Menzel A; Weinberger R; Bublak
W
PATENT ASSIGNEE: Tosoh %%%1995%%%
PATENT NUMBER: DE 4333805  PATENT DATE: 950302  WPI
ACCESSION NO.:
  95-099616 (9514)
PRIORITY APPLIC. NO.: JP 93230870  APPLIC. DATE: 930824
NATIONAL APPLIC. NO.: DE 4333805  APPLIC. DATE: 931004
LANGUAGE: German
ABSTRACT:  A nucleic acid extraction method is claimed which involves: (a)
  mixing a sample with an adsorbent selected from dextran, acrylamide or
  CM-cellulose resulting in a fluid; (b) mixing (a) with reagent-C to
  precipitate the nucleic acids and adsorbents (reagent-C consisting of
  at least one of: guanidinium thiocyanate, guanidinium hydrochloride,
  potassium thiocyanate, sodium thiocyanate; and at least one of:
  n-propyl alcohol, iso-propyl alcohol, n-butyl alcohol, secondary butyl
  alcohol, tertiary butyl alcohol and tertiary amyl alcohol); and (c)
  separation of precipitated nucleic acids and adsorbent from the fluid
  phase. Also claimed is a kit of reagents including at least one
  adsorbent and separate reagent-C. A specific nucleic acid is detected
  by the claimed methods and production of RNA or DNA by a reverse
  transcription reaction, followed by a polymerase chain reaction whilst
  measuring the change in fluorescence intensity as a measure for the
  presence of a certain nucleic acid in the sample. (24pp)


 7/3,AB/3    (Item 2 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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178790  DBA Accession No.: 95-06200  PATENT
Extracting nucleic acid by precipitation on a carrier - DNA purification
  and detection of specific sequences by polymerase chain reaction and
  fluorescence
AUTHOR: Yamagishi H
PATENT ASSIGNEE: Tosoh %%%1995%%%
PATENT NUMBER: GB 2282138  PATENT DATE: 950329  WPI
ACCESSION NO.:
  95-117532 (9516)
PRIORITY APPLIC. NO.: GB 9319996  APPLIC. DATE: 930928
NATIONAL APPLIC. NO.: GB 9319996  APPLIC. DATE: 930928
LANGUAGE: English
ABSTRACT: Nucleic acid is extracted from a sample by: (a) mixing the
sample
  with an adsorbent (dextran, polyacrylamide and CM-cellulose); (b)
  treating the mixture with reagent C; and (c) separating insolubilized
  nucleic acid and adsorbent from the liquid phase. Reagent C contains at
  least one of reagent A (guanidium thiocyanate, guanidium hydrochloride,
  sodium thiocyanate or potassium thiocyanate) and reagent B (n-propanol,
  isopropanol, n-butanol, sec-butanol, tert-butanol or tert-pentanol).
  Also claimed are: (i) a method for detecting a specific nucleic acid,
  involving the additional steps of (d) if RNA, converting to cDNA by
  reverse transcription, (e) subjecting DNA to polymerase chain reaction
  (PCR) using an oligonucleotide DNA primer (able to amplify at least one
  specific sequence), mixture of dNTP, DNA-polymerase (EC-2.7.7.7) and an
  intercalating fluorochrome, (f) measuring change in fluorescent
  intensity during PCR and (g) determining from this whether a specific
  nucleic acid sequence is present in the sample; and (ii) a reagent for
  the extension of nucleic acid containing at least reagent C and
  adsorbent in separate containers. (48pp)


 7/3,AB/4    (Item 3 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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178770  DBA Accession No.: 95-06180
Recovery of DNA, RNA and protein from gels with microconcentrators - DNA
  purification, RNA purification and protein purification from
  electrophoresis gel using a centrifugal ultrafiltration device with a
  microporous insert
AUTHOR: Krowczynska A M; Donoghue K; Hughes L
CORPORATE AFFILIATE: Amicon
```

CORPORATE SOURCE: Amicon, Inc., 72 Cherry Hill Drive, Beverly, MA 01915-1065, USA.
JOURNAL: BioTechniques (18, 4, 698-703) %%%1995%%%
ISSN: 0736-6205 CODEN: BTNQDO
LANGUAGE: English
ABSTRACT: The use of a new product, Microcon/Micropure (a centrifugal ultrafiltration device combined with a microporous insert), for the purification of DNA, RNA, peptides and proteins from gels is described. Using this system, DNA can be recovered from agarose gel in concentrated, contamination-free form in only 15 min. Results of studies on the effects of fragment size and various pretreatments of the gel slice on DNA recovery are presented. For small fragments (below 1000 bp) the gel can be centrifuged directly in the Micropure/Microcon. For optimal results with larger fragments, reduction of the gel to small pieces using e.g. a gel homogenizer is necessary. Use of the Microcon microconcentrator allowed further DNA purification and/or concentration, and the microcentrifuge format allows simultaneous processing of multiple samples. The Microcon/Micropure combination can also be used for the recovery of macromolecules from polyacrylamide gels. Optimized protocols for the recovery of RNA, oligonucleotides and proteins from polyacrylamide gels using a crush and elute technique, along with a study of critical parameters, are presented. (8 ref)

7/3,AB/5 (Item 4 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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176286 DBA Accession No.: 95-03107
Rapid method for the elution and analysis of PCR products separated on high resolution acrylamide gels - polymerase chain reaction product DNA elution from gel by simple water extraction
AUTHOR: Raju R; Hoppe B L; Navaneetham D; Conti-Fine B M
CORPORATE AFFILIATE: Univ.Minnesota
CORPORATE SOURCE: Department of Biochemistry, University of Minnesota, 1479
Gortner Avenue, St. Paul, MN 55108, USA.
JOURNAL: BioTechniques (18, 1, 32,34,36) %%%1995%%%
ISSN: 0736-6205 CODEN: BTNQDO
LANGUAGE: English
ABSTRACT: A simple and rapid procedure is described for the recovery of DNA
from high-resolution acrylamide gels containing 7 M urea for their amplification by the polymerase chain reaction (PCR), identification and sequencing. In this procedure, simple water extraction of the acrylamide gel slice without further precipitation or purification of the eluted DNA yields DNA samples suitable for immediate analysis by PCR. Steps involved in the precipitation and purification of the eluted DNA (e.g. ethanol precipitation), which are time consuming and may cause DNA loss, can be avoided and contaminants potentially harmful to PCR (e.g. urea) are diluted over 100-fold. In a pilot experiment to determine the PCR-compatible concentration of urea, a significant reduction in the Thermus aquaticus DNA-polymerase (EC-2.7.7.7) activity was found at concentrations of over 0.35 M. The method was applied to the verification of the identify of the PCR product amplified from a human T-lymphocyte line using primers specific for different T-lymphocyte receptor V-beta region families. Quick and excellent results were obtained from sequencing gels. (8 ref)

7/3,AB/6 (Item 5 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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174489 DBA Accession No.: 95-01310
Effects of linear polyacrylamide concentrations and applied voltages on the separation of oligonucleotides and DNA sequencing fragments by capillary electrophoresis - oligonucleotide DNA purification
AUTHOR: Manabe T; Chen N; Terabe S; Yohda M; Endo I
CORPORATE AFFILIATE: Himeji-Inst.Technol.
Inst.Phys.Chem.Res.Saitama
CORPORATE SOURCE: Department of Chemistry, Faculty of Science, Ehime
University, 2-5 Bunkyo-Cho, Matsuyama City, 790 Japan.
JOURNAL: Anal.Chem. (66, 23, 4243-52) %%%1994%%%
ISSN: 0003-2700 CODEN: ANCHAM
LANGUAGE: English
ABSTRACT: Oligonucleotides and DNA sequencing fragments were separated by capillary electrophoresis, with linear polyacrylamide (LPA) as a sieving matrix and a laser-induced fluorescence detection system. The capillary cartridge was modified to position capillaries without coiling. The separation performance was examined using poly-dT(16-500) by changing the LPA concentration, capillary length and electric field strength. For large DNA fragments, the migration time interval between bands decreased linearly as the DNA fragment size increased, implying that there was a maximum base number (Nmax) for resolution, irrespective of band width. A higher value of Nmax was obtained when the applied field strength was lower, but this accompanied longer analysis time with a concomitant increase in band width. Simple equations are proposed to calculate resolution and migration times of DNA fragments separated in this system in given electrophoretic conditions. Using 9% T LPA and an electric field strength of 100 V/cm, single-base resolution of phage M13mp10 DNA fragments up to 520 nucleotides was obtained. (28 ref)

7/3,AB/7 (Item 6 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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173888 DBA Accession No.: 95-00709
Separation of fragments up to 570 bases in length by use of 6% T non-cross-linked polyacrylamide for DNA sequencing in capillary electrophoresis - DNA purification for use in DNA sequencing
AUTHOR: Best N; Arriaga E; Chen D Y; +Dovichi N J
CORPORATE AFFILIATE: Univ.Alberta
CORPORATE SOURCE: Department of Chemistry, University of Alberta, Edmonton,
Alberta T6G 2G2, Canada.
JOURNAL: Anal.Chem. (66, 22, 4063-67) %%%1994%%%
ISSN: 0003-2700 CODEN: ANCHAM
LANGUAGE: English
ABSTRACT: Non-cross-linked polyacrylamide was demonstrated to be a very
convenient medium for the separation of DNA sequencing fragments in capillary electrophoresis. DNA sequencing with 6% T-non-cross-linked polyacrylamide was demonstrated at an electric field of 200 V/cm and at RT using phage M13mp18 DNA fragments. Resolution was observed to decrease exponentially with fragment length. Fragments of 570 bases generated a resolution of 0.5, which is adequate for sequence identification. In previous studies, separation of fragments up to 370 bases was achieved. The inverse dependence of the onset of biased reptation with electric field accounted for most of the improvement in sequence length reported in this study. In addition, previous work was performed at elevated temp. where the effects of biased reptation are more serious, used very high concentration polyacrylamide, which exacerbated the effects of biased reptation, and produced poor signal-to-noise ratios in fluorescence signals, so that the smaller amplitude, later eluting fragments were buried in noise. (49 ref)

7/3,AB/8 (Item 7 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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156852 DBA Accession No.: 93-14904
Separation of DNA fragments by capillary electrophoresis using replaceable linear polyacrylamide matrices - DNA purification (conference paper)
AUTHOR: Pariat Y F; Berka J; Heiger D N; Schmitt T; Vilenchik M; +Karger B L
CORPORATE SOURCE: Barnett Institute and Department of Chemistry, Northeastern University, 102 Hurtig Hall, 360 Huntington Avenue, Boston, MA 02115, USA.
JOURNAL: J.Chromatogr. (652, 1, 57-66) %%%1993%%%
CODEN: JOCRAM
LANGUAGE: English
ABSTRACT: The use of low percent (1.5-6%T) replaceable linear polyacrylamide (LPA) network matrices for rapid separation of double-stranded DNA fragments was explored. Separations of fragments of 20 to 23,000 bp were achieved. Typically, 4,000,000 theoretical plates/m were obtained in less than 30 min. Short Separation times under 2 min were also possible, using the DNA intercalating dye, ethidium bromide (EtBr), with high electric fields. The high resolving power of linear polyacrylamide was shown in the separation of 2 fragments which differed by a single base pair (123/124 bp) using 6%T LPA and EtBr intercalation. This LPA composition allowed the single base-pair resolution of double-stranded DNA fragments of up to 300 bp.

Several concentrations of the linear polyacrylamide for different ranges of fragment lengths were used. Replaceable LPA offers the advantage of a fresh separation matrix for each run, overcoming column stability problems and minimizing needs for sample clean-up. Electroosmotic flow was reduced using stable capillary coatings, which were needed to obtain high efficiencies and good reproducibility. (40 ref)

7/3,AB/9 (Item 8 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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110647 DBA Accession No.: 90-13338
Separation of DNA restriction fragments by high performance capillary electrophoresis with low and zero crosslinked polyacrylamide using continuous and pulsed electric fields - DNA purification (conference paper)
AUTHOR: Heiger D N; Cohen A S; +Karger B L
CORPORATE SOURCE: Barnett Institute, Northeastern University, Boston, MA
02115, USA.
JOURNAL: J.Chromatogr. (516, 1, 33-48) %%%1990%%%
CODEN: JOCRAM
LANGUAGE: English
ABSTRACT: Results are presented on the separation of DNA restriction fragments by high performance capillary electrophoresis (HPCE). Low or zero crosslinked polyacrylamide filled capillaries were used for the separation of DNA fragments up to 12,000 bp. The greater molecular accessibility offered with columns of low crosslinking (1% C), relative to higher crosslinked gels (e.g. 5% C), permitted high efficiency separations of double stranded DNA fragments up to 12,000 bp in length. The size selectivity of linear polyacrylamide capillaries (containing no crosslinking agent) was studied. The relative migration of DNA species was a strong function of applied electric field and molecular size. Lower fields yielded better resolution than higher fields for DNA molecules larger than 1000 bp. This was achieved at the expense of a longer separation time. The columns used were stable and could be used repeatedly for long periods of time. (44 ref)

7/3,AB/10 (Item 9 from file: 357)
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107692 DBA Accession No.: 90-10383
Separation of the DNA molecules beyond conventional size limits by gel electrophoresis with sodium dodecyl sulfate - DNA purification
AUTHOR: Tas S
CORPORATE SOURCE: Department of Pathology, Faculty of Medicine, Kuwait
University, P.O. Box 24923 Safat, 13110, Kuwait.
JOURNAL: Anal.Biochem. (188, 1, 33-37) %%%1990%%%
CODEN: ANBCA2
LANGUAGE: English
ABSTRACT: Electrophoretic mobility of DNA through polyacrylamide and
agarose gels is greatly increased by SDS. DNA molecules well beyond the conventionally separable size limits are separated readily and rapidly by gel electrophoresis with SDS in a conventional static electric field. In optimal concentration gels, DNA molecules of similar molecular sizes are separated better from one another in the presence of SDS than in its absence. Evidence is presented that SDS may act at least in part by altering DNA conformation. This simple and readily available means for high resolution separation of hitherto impossible sizes of DNA molecules (e.g. 23.1 and 9.4 kb) in polyacrylamide and agarose gels in an ordinary static electric field should find general use in the analytical or preparative separation of larger DNA molecules and in gene mapping. Structural analyses of DNA-protein complexes are also facilitated by virtue of the simultaneous separation of the DNA and protein components on the same gel lane. SDS also causes dissociation of ethidium from DNA, explaining why DNA cannot be visualized by ethidium bromide fluorescence in the presence of SDS. (13 ref)

7/3,AB/11 (Item 10 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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104673 DBA Accession No.: 90-07364
Rapid purification of synthetic oligonucleotides: a convenient alternative to high-performance liquid chromatography and polyacrylamide gel electrophoresis - oligonucleotide DNA purification using NENSORB PREP chromatography cartridge
AUTHOR: Johnson B A; McClain S G; Doran E R; Tice G; Kirsch M A
CORPORATE AFFILIATE: Du-Pont
CORPORATE SOURCE: Du Pont/NEN Research Products, 549 Albany Street, Boston,
MA 02118, USA.
JOURNAL: BioTechniques (8, 4, 424-29) %%%1990%%%
CODEN: BTNQDO
LANGUAGE: English
ABSTRACT: A new method has been developed to purify and detritylate mg
amounts of synthetic oligonucleotides. Dimethoxytrityl oligonucleotides from 15 to 100 nucleotides in length are applied to a disposable chromatographic cartridge, the NENSORB PREP Nucleic Acid Purification Cartridge. Salts, failure sequences and synthetic by-products are washed away while the desired full-length dimethoxytrityl oligonucleotide remains bound to the cartridge. The trityl group is hydrolyzed from the 5' end of the oligonucleotide with an acid wash and then eluted with 35% methanol. Oligonucleotides are recovered salt-free with over 95% purity. NENSORB PREP-purified DNA primers provide superior sequence data compared to similar primers used without purification and equivalent data to primers purified by PAGE when used in manual radiometric Sanger sequencing. The cartridges offer a convenient one-step alternative to current purification methods, such as preparative gel electrophoresis, HPLC, size-exclusion chromatography and other cartridge techniques. Up to 1 mg (50 OD units) can be purified quickly using readily available reagents. (17 ref)

7/3,AB/12 (Item 11 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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100979 DBA Accession No.: 90-03670
Ethanol precipitation of DNA with linear polyacrylamide as carrier - DNA purification, RNA purification, protein purification
AUTHOR: Gaillard C; Strauss F
CORPORATE SOURCE: Institut Jacques Monod, 2 Place Jussieu, 75251 Paris 05,
France.
JOURNAL: Nucleic Acids Res. (18, 2, 378) %%%1990%%%
CODEN: NARHAD
LANGUAGE: English
ABSTRACT: Linear polyacrylamide is a very efficient neutral carrier for precipitating pg amounts of %%%nucleic%%% %%%acid%%% with ethanol. For
the %%%purification%%% of DNA, 10-20 ug of linear %%%polyacrylamide%%%
and 2.5 vol. ethanol are added to DNA in a salt buffer (at least 0.1 M). This mixture is incubated at -70 deg in a dry ice-ethanol bath for 10 min before centrifuging for 10 min at top speed in a microcentrifuge. The supernatant is removed and the pellet is washed with ethanol before drying. Polyacrylamide can also be used to precipitate RNA with ethanol or proteins with acetone. Precipitating pg amounts of DNA by this method results in complete recovery of fragments larger than 20 bp; most of the DNA is lost if no carrier is used. Very short DNA fragments do not co-precipitate with polyacrylamide, which permits separation of labeled DNA from unreacted nucleotides by precipitation after labeling reactions. Polyacrylamide has been used for most of the common DNA manipulations, including enzyme reactions, gel electrophoresis, cloning, DNA-protein interactions, and appears inert in all experiments. (3 ref)

7/3,AB/13 (Item 12 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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098597 DBA Accession No.: 90-01288 PATENT
Particle separation by electrophoresis - e.g. DNA, enzyme, chromosome, etc., by suspending in agarose or acrylamide gel matrix and inserting gel in electrophoretic support medium
PATENT ASSIGNEE: Columbia-Univ %%%1989%%%
PATENT NUMBER: US 4861448 PATENT DATE: 890829 WPI ACCESSION NO

89-323591 (8944)
PRIORITY APPLIC. NO.: US 99535 APPLIC. DATE: 870922
NATIONAL APPLIC. NO.: US 99535 APPLIC. DATE: 870922
LANGUAGE English
ABSTRACT: A new electrophoretic method involves subjecting the particles in
a suitable medium to an electric field so as to move the particles. The improvement comprises: (a) suspending the particles in liquid agarose or acrylamide compatible with the medium and capable of solidifying into a gel to form a solid gel matrix containing the particles; (b) allowing the liquid containing the suspended particles to solidify; and (c) inserting the solidified gel into the medium and then subjecting the particles to the electric field. More specifically, cells containing the macromolecules are first immobilized in the gel, then treated so as to disrupt or lyse the cells before inserting the gel into the medium and subjecting the gel to an electric field. The macromolecules are preferably subjected to at least 2 co-planar electric fields varying with time, the fields being oriented transversely to each other. The new method is useful for separation of macromolecules, enzymes, DNA, chromosomes, etc. present in cells. Damage to the macromolecules is minimized, the gel blocks may be formed automatically and DNA is stabilized in the gel. (12pp)

7/3,AB/14 (Item 13 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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083726 DBA Accession No.: 89-01717
A protocol for DNA fragment extraction from polyacrylamide gels - and example of application
AUTHOR: Dybczynski I; Plucienniczak A
CORPORATE SOURCE: Department of Biochemistry, Institute of Physiology and
Biochemistry, School of Medicine in Lodz, 90-131 Lodz, Lindleya 6, Poland.
JOURNAL: BioTechniques (6, 10, 924-26) %%%1988%%%
CODEN: BTNQDO
LANGUAGE: English
ABSTRACT: A protocol for DNA fragment extraction from polyacrylamide gels
has been developed. Gel pieces containing an expression vector are placed in an Eppendorf tube and after addition of 500 ul extraction buffer, incubated for 16 hr with shaking at 37 deg. The solution is microcentrifuged for 15 min, and the DNA precipitated with 1 ml cold ethanol. The pellet is recovered, air-dried and dissolved in 100 ul TE buffer (containing Tris and EDTA). After addition of 10 ul 3 M sodium acetate, the DNA is precipitated with 2 volumes of ethanol. The pellet is dissolved in 50 ul of ligation buffer, and recovery is checked with agarose gel electrophoresis. T4 DNA-ligase is added to 10 ul DNA solution and incubated at RT for 2 hr. Bacteria are then transformed. The protocol was used to extract DNA from plasmid pWR 450.0 expression vector and pABil20, after digestion with BstI and HindIII restriction endonucleases. Both digestion mixtures were electrophoresed in a single gel. Recovery of DNA from the gel was 70%. Transformation of bacteria gave clones containing the expected fusion protein. Results were confirmed by standard methods. (3 ref)

7/3,AB/15 (Item 14 from file: 357)
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063393 DBA Accession No.: 87-07741
The laboratory robot - automatic DNA sequencing, DNA purification etc., design and programming
AUTHOR: Anon
CORPORATE SOURCE: (Pub. Address) Nature Publishing Company, 15th East 26th
Street, New York, NY 10010, USA.
JOURNAL: Bio/Technology (5, 5, 459-60,463-64,467) %%%1987%%%
CODEN: 2049Y
LANGUAGE: English
ABSTRACT: The use of laboratory robotics in biotechnology is discussed. The possible applications of robots are discussed and reference is made to DNA sequencing (automation of the Maxam-Gilbert DNA sequencing protocol, and automation of the Sanger dideoxysequencing reactions), and %%%DNA%%% %%%purification%%% (robot-based systems that isolate
oligonucleotides from %%%polyacrylamide%%% gel slices, and automated
purification and isolation of synthetic DNA). A robotic method for growing macromolecular crystals for X-ray diffraction studies is considered. Factors to consider in deciding between a manual method, or dedicated automation or properly programmed robots are discussed. Factors involved in programming a robot and factors influencing the precision of a robot (i.e. the ability to find a pre-programmed position and to return to the same position on each cycle) are considered. Reference is made to the effects of robomation on laboratory design. (0 ref)
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 *      WELCOME TO THE          *
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=> s acrylamide

L1     31418 ACRYLAMIDE

=> s adsorption or absorbtion or absorption

      41739 ADSORPTION
       2729 ABSORBTION
     161551 ABSORPTION
L2    190214 ADSORPTION OR ABSORBTION OR ABSORPTION

=> s purification

L3     95879 PURIFICATION

=> s l1 and l2

L4      9711 L1 AND L2

=> s dna or nucleic(w)acid

      26015 DNA
      18065 NUCLEIC
     437648 ACID
      13883 NUCLEIC(W)ACID
L5    27807 DNA OR NUCLEIC(W)ACID

=> s l1(10w)l2

L6        37 L1(10W)L2

=> s l4 and l5

L7      1258 L4 AND L5

=> s l6 and l5

L8         0 L6 AND L5

=> s l3(5w)l5

L9      1165 L3(5W)L5

=> s l4 and l9

L10       81 L4 AND L9

=> s lcst

L11      129 LCST

=> s l3 and l11

L12       20 L3 AND L11

=> s l10 or l12

L13      101 L10 OR L12

=> d his


    (FILE 'USPAT' ENTERED AT 15:55:48 ON 14 SEP 1998)
L1     31418 S ACRYLAMIDE
L2    190214 S ADSORPTION OR ABSORBTION OR ABSORPTION
L3     95879 S PURIFICATION
L4      9711 S L1 AND L2
L5     27807 S DNA OR NUCLEIC(W)ACID
L6        37 S L1(10W)L2
L7      1258 S L4 AND L5
L8         0 S L6 AND L5
L9      1165 S L3(5W)L5
L10       81 S L4 AND L9
L11      129 S LCST
L12       20 S L3 AND L11
L13      101 S L10 OR L12

=> s l2(10w)l5

L14     277 L2(10W)L5

=> s ll and l5

      6449 LL
L15     356 LL AND L5

=> s l14 or l15

L16     631 L14 OR L15

=> s l1 and l5

L17     3474 L1 AND L5

=> s l14 or l17

L18     3707 L14 OR L17

=> s l5(10w)l2(10w)l1

L19       0 L5(10W)L2(10W)L1

=> s l5(10w)l2

L20     327 L5(10W)L2

=> s l20(10w)l1

L21       0 L20(10W)L1

=> d l13,cit,ab,rel,1-101


1.  5,804,684, Sep. 8, 1998, Method for isolating nucleic acids; Xing Su,
536/25.4; 422/70, 101; 435/270; 536/25.41, 25.42 [IMAGE AVAILABLE]

US PAT NO:    5,804,684 [IMAGE AVAILABLE]          L13: 1 of 101

ABSTRACT:
The invention features a method of isolating nucleic acid in a
substantially purified form, including the steps of: a) contacting a
biological sample which contains aggregated nucleic acid with a matrix
comprising a solid hydrophilic organic polymer without an effective
positive charge under conditions which permit the nucleic acid to bind to
the matrix; and b) recovering nucleic acid from the matrix.

2.  5,792,849, Aug. 11, 1998, Glial mitogenic factors, their preparation
and use; Andrew Goodearl, et al., 536/23.5 [IMAGE AVAILABLE]

US PAT NO:    5,792,849 [IMAGE AVAILABLE]          L13: 2 of 101

ABSTRACT:
Disclosed is the characterization and **purification** of **DNA**
encoding a numerous polypeptides useful for the stimulation of glial cell
(particularly, Schwann cell) mitogenesis and treating glial cell tumors.
Also disclosed are DNA sequences encoding novel polypeptides which may
have use in stimulating glial cell mitogenesis and treating glial cell
tumors. Methods for the synthesis, purification and testing of both known
and novel polypeptides for their use as both therapeutic and diagnostic
aids in the treatment of diseases involving glial cells are also
provided. Methods are also provided for the use of these polypeptides for
the preparation of antibody probes useful for both diagnostic and
therapeutic use in diseases involving glial cells.
REL-US-DATA:  Division of Ser. No. 36,555, Mar. 24, 1993, Pat. No.
              5,530,109, which is a continuation-in-part of Ser. No.
              863,703, Apr. 3, 1992, abandoned, which is a
              continuation-in-part of Ser. No. 907,138, Jun. 30, 1992,
              abandoned, which is a continuation-in-part of Ser. No.
              940,389, Sep. 3, 1992, abandoned, which is a
              continuation-in-part of Ser. No. 965,173, Oct. 23, 1992,
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abandoned.

3. 5,780,601, Jul. 14, 1998, Method for purification of protein "e" from haemophilus influenzae, Bruce A. Green, et al., 530/412, 424/256.1; 530/350 [IMAGE AVAILABLE]

US PAT NO: 5,780,601 [IMAGE AVAILABLE] L13: 3 of 101

ABSTRACT:
"A method of purifying protein "e" from Haemophilus influenzae includes disrupting H. influenzae cells, subjecting the disrupted cells by differential sedimentation to obtain a total cell membrane fraction, fractionating the total cell membrane into inner and outer membrane components by density gradient sedimentation or by differential solubilization of the inner membrane component with detergents, obtaining a subfraction of the preparation of the outer membrane components which is enriched in protein "e" by extraction with an aqueous solution of 0.1-2.0% N-lauroyl sarcosine, sodium salt, solubilizing the protein "e" from the subfraction by a two-step differential solubilization process with sulfobetaine detergents, and recovering the aqueous solution which contains the purified protein "e"
REL-US-DATA: Division of Ser. No. 491,466, Mar. 9, 1990, Pat. No. 5,601,831, which is a continuation-in-part of Ser. No. 320,971, Mar. 9, 1989, abandoned.

4. 5,776,677, Jul. 7, 1998, Methods of detecting cystic fibrosis gene by nucleic acid hybridization; Lap-Chee Tsui, et al., 435/6, 91.2; 536/23.2, 24.3, 24.33 [IMAGE AVAILABLE]

US PAT NO: 5,776,677 [IMAGE AVAILABLE] L13: 4 of 101

ABSTRACT:
The cystic fibrosis gene and its gene product are described for both the normal and mutant forms. The genetic and protein information is used in developing DNA diagnosis, protein diagnosis, carrier and patient screening, drug and gene therapy, cloning of the gene and manufacture of the protein, and development of cystic fibrosis affected animals.
REL-US-DATA: Division of Ser. No. 752,778, Jun. 2, 1994, and a continuation of Ser. No. 123,864, Sep. 20, 1993, abandoned, which is a continuation of Ser. No. 401,609, Aug. 31, 1989, abandoned, which is a continuation-in-part of Ser. No. 399,945, Aug. 24, 1989, abandoned, which is a continuation-in-part of Ser. No. 396,894, Aug. 22, 1989, abandoned, said Ser. No. 252,778 is a division of Ser. No. 123,864, Sep. 20, 1993, abandoned.

5. 5,773,581, Jun. 30, 1998, Conjugate of a solution stable G-CSF derivative and a water-soluble polymer; Roger Camble, et al., 530/351; 424/85.1; 530/410 [IMAGE AVAILABLE]

US PAT NO: 5,773,581 [IMAGE AVAILABLE] L13: 5 of 101

ABSTRACT
The present invention provides a conjugate of a solution stable G-CSF derivative and a water soluble polymer which is an acid stable physiologically active substance derived from naturally occurring G-CSF.
REL-US-DATA: Continuation of Ser. No. 155,327, Nov. 22, 1993, abandoned, which is a division of Ser. No. 734,225, Jul. 22, 1991, Pat. No. 5,320,840.

6. 5,773,577, Jun. 30, 1998, Products comprising substrates capable of enzymatic cross-linking; Joseph Cappello, 530/350; 424/77, 422, 484, 486, 530/353, 356, 357, 360, 402, 409 [IMAGE AVAILABLE]

US PAT NO: 5,773,577 [IMAGE AVAILABLE] L13: 6 of 101

ABSTRACT:
Polymers are provided comprising protein polymers comprising blocks of repeating units and sequences comprising amino acids, individually or in defined sequences, capable of enzyme catalyzed covalent bond formation for cross-linking, as exemplified by glutamine and/or lysine reactive for FXIII catalyzed isopeptide formation or non-amino acid polymers having side chains comprising such amino acids or sequences, which may be used for preparation of articles of manufacture, particularly cross-linkable compositions. By appropriate choice of the polymer, resorbable implantable polymers may be used in internal applications for mammals as formed objects or depots.
REL-US-DATA: Continuation-in-part of Ser. No. 205,518, Mar. 3, 1994, abandoned.

7. 5,773,249, Jun. 30, 1998, High molecular weight collagen-like protein polymers; Joseph Cappello, et al., 435/69.1, 69.7, 252.3, 252.33; 530/356, 388.9, 389.8; 536/23.5 [IMAGE AVAILABLE]

US PAT NO: 5,773,249 [IMAGE AVAILABLE] L13: 7 of 101

ABSTRACT:
Collagen-like polymers having repetitive triads are produced having reduced proline content, where glycine is the initial amino acid and the subsequent amino acids are varied, while retaining at least a minimum percentage of prolines. The resulting polymers have collagen-like properties, but are capable of being produced in unicellular microorganisms at high molecular weights and in high efficiency. The polymers, while retaining collagen-like characteristics, include various novel sequences which impart new characteristics, finding wide use in photographic, medical, structural and fiber applications.
REL-US-DATA: Continuation-in-part of Ser. No. 577,046, Dec. 22, 1995, which is a continuation of Ser. No. 972,032, Nov. 5, 1992, Pat. No. 5,496,712, Mar. 5, 1996, which is a continuation-in-part of Ser. No. 791,960, Nov. 12, 1991, abandoned, which is a continuation-in-part of Ser. No. 609,716, Nov. 6, 1990, Pat. No. 5,514,581, May 7, 1996, which is a continuation-in-part of Ser. No. 269,429, Nov. 9, 1988, abandoned, which is a continuation-in-part of Ser. No. 114,618, Oct. 29, 1987, Pat. No. 5,243,038, Sep. 7, 1993, which is a continuation-in-part of Ser. No. 927,258, Nov. 4, 1986, abandoned.

8. 5,770,568, Jun. 23, 1998, Variants of bovine pancreatic trypsin inhibitor produced by recombinant DNA technology, process expression vector and recombinant host therefor and pharmaceutical use thereof; Ernst-August Auerswald, et al., 514/12; 530/324 [IMAGE AVAILABLE]

US PAT NO: 5,770,568 [IMAGE AVAILABLE] L13: 8 of 101

ABSTRACT:
Peptides having essentially the sequence of bovine pancreatic trypsin inhibitor (aprotinin) wherein one or more of the amino acids at positions 15, 16, 17, 18, 34, 39 and 52 are replaced by any naturally occurring amino acid produced by recombinant DNA technology, process, expression vector and recominant host therefor and pharmaceutical use thereof. Such peptides being useful as therapeutic agents in diseases connected with the presence of excessive amounts of proteinases.
REL-US-DATA: Continuation of Ser. No. 156,515, Nov. 23, 1993, abandoned, which is a continuation of Ser. No. 808,318, Dec. 13, 1991, abandoned, which is a division of Ser. No. 221,835, Jul. 20, 1988, Pat. No. 5,118,668.

9. 5,766,840, Jun. 16, 1998, Hepatitis G virus and molecular cloning thereof; Jungsuh P. Kim, et al., 435/5; 530/388.3, 389.4 [IMAGE AVAILABLE]

US PAT NO: 5,766,840 [IMAGE AVAILABLE] L13: 9 of 101

ABSTRACT:
Polypeptide antigens are disclosed which are immunoreactive with sera from individuals having a non-A, non-B, non-C, non-D, non-E Hepatitis, herein designated Hepatitis G Virus (HGV). Corresponding genomic-fragment clones containing polynucleotides encoding the open reading frame sequences for the antigenic polypeptides are taught. The antigens are useful in diagnostic methods for detecting the presence of HGV in test subjects. The antigens are also useful in vaccine and antibody preparations. In addition, the entire coding sequences of two HGV isolates are disclosed. Methods are presented for nucleic acid-based detection of HGV in samples and also methods for the isolation of further genomic sequences corresponding to HGV.
REL-US-DATA: Division of Ser. No. 444,733, May 19, 1995, and a continuation-in-part of Ser. No. 389,886, Feb. 15, 1995, abandoned, which is a continuation-in-part of Ser. No. 357,509, Dec. 16, 1994, abandoned, which is a continuation-in-part of Ser. No. 329,729, Oct. 26, 1994, abandoned, which is a continuation-in-part of Ser. No. 285,558, Aug. 3, 1994, abandoned, and Ser. No. 285,543, Aug. 3, 1994, abandoned, which is a continuation-in-part of Ser. No. 246,985, May 20, 1994, abandoned, said Ser. No. 285,558 is a continuation-in-part of Ser. No. 246,985, said Ser. No. 444,733 is a continuation-in-part

of Ser. No. 344,271, Nov. 23, 1994, abandoned, which is a continuation-in-part of Ser. No. 285,561, Aug. 3, 1994, abandoned, which is a continuation-in-part of Ser. No. 246,985.

10. 5,763,572, Jun. 9, 1998, HTLV-II peptide antigens; Gregory R. Reyes, et al., 530/324; 435/5; 530/325, 326, 327, 350 [IMAGE AVAILABLE]

US PAT NO: 5,763,572 [IMAGE AVAILABLE] L13: 10 of 101

ABSTRACT:
Novel HTLV-I and HTLV-II peptide antigens are disclosed for use in diagnostics assays for screening and confirming HTLV-I and HTLV-II antisera. The peptides are derived from analogous regions of HTLV-I and HTLV-II gp46 envelope proteins, and are differentiated by their immunoreactivity with an HTLV-II specific monoclonal antibody and by HTLV-I and HTLV-II antisera. The peptides are also useful in vaccine compositions

REL-US-DATA: Division of Ser. No. 653,091, Feb. 8, 1991, Pat. No. 5,614,366, which is a continuation-in-part of Ser. No. 366,313, Jun. 13, 1989, Pat. No. 5,066,579, which is a continuation of Ser. No. 948,270, Dec. 31, 1986, abandoned.

11. 5,753,439, May 19, 1998, Nucleic acid detection methods; Cassandra L. Smith, et al., 435/6, 5, 91.2; 536/24.3, 24.32, 24.33 [IMAGE AVAILABLE]

US PAT NO: 5,753,439 [IMAGE AVAILABLE] L13: 11 of 101

ABSTRACT:
The invention relates to methods for rapidly determining the sequence and/or length a target sequence. The target sequence may be a series of known or unknown repeat sequences which are hybridized to an array of probes. The hybridized array is digested with a single-strand nuclease and free 3'-hydroxyl groups extended with a nucleic acid polymerase. Nuclease cleaved heteroduplexes can be easily distinguish from nuclease uncleaved heteroduplexes by differential labeling. Probes and target can be differentially labeled with detectable labels. Matched target can be detected by cleaving resulting loops from the hybridized target and creating free 3-hydroxyl groups. These groups are recognized and extended by polymerases added into the reaction system which also adds or releases one label into solution. Analysis of the resulting products using either solid phase or solution. These methods can be used to detect characteristic nucleic acid sequences, to determine target sequence and to screen for genetic defects and disorders. Assays can be conducted on solid surfaces allowing for multiple reactions to be conducted in parallel and, if desired, automated.

12. 5,753,231, May 19, 1998, Primate intra-acrosomal sperm antigen for use in a contraceptive vaccine; John C. Herr, et al., 424/185.1, 811; 435/7.21, 69.3, 344.1; 514/843; 530/388.15, 388.85, 852 [IMAGE AVAILABLE]

US PAT NO: 5,753,231 [IMAGE AVAILABLE] L13: 12 of 101

ABSTRACT:
A substantially purified intra-acrosomal primate sperm antigen useful in a contraceptive vaccine is disclosed herein. The antigen remains associated with primate sperm after the acrosome reaction. In particular, it remains associated with the inner and outer acrosomal membranes. Modified antigens and fragments thereof prepared by protein modification techniques are also disclosed as well as methods for purifying and using the antigens. Also disclosed are monoclonal and polyclonal antibodies to the antigen and methods of making and using such antibodies. Methods of use include purification of the antigen or use in various diagnostic techniques. Also disclosed are cDNA, expression vectors, and transformed microorganisms that produce the antigen.

REL-US-DATA: Continuation of Ser. No. 292,045, Aug. 18, 1994, Pat. No. 5,602,005, Feb. 11, 1997, which is a continuation of Ser. No. 858,798, Mar. 27, 1992, abandoned, which is a continuation-in-part of Ser. No. 481,491, Feb. 16, 1990, Pat. No. 5,436,157, Jul. 25, 1995, which is a continuation-in-part of Ser. No. 318,551, Mar. 3, 1989, abandoned.

13. 5,750,335, May 12, 1998, Screening for genetic variation; David K. Gifford, 435/6, 91.2, 810; 530/350, 412, 810; 536/25.4 [IMAGE AVAILABLE]

US PAT NO: 5,750,335 [IMAGE AVAILABLE] L13: 13 of 101

ABSTRACT:
Disclosed is a method of genetic screening for a nucleotide variation, the method including the steps of (A) providing a mixture of nucleic acids comprising heteroduplex nucleic acids and excess homoduplex nucleic acids, wherein each said heteroduplex comprises a test nucleic acid strand isolated from an organism and a reference nucleic acid strand, each said heteroduplex also comprising a mismatched nucleotide pair, wherein said excess homoduplex nucleic acids are generated by reannealing of a first test or reference nucleic acid strand with a fully complementary second test or reference nucleic acid strand; (B) subjecting said mixture to a mismatch binding protein under conditions which promote binding to form a heteroduplex/binding protein complex, and C) detecting the presence of said mismatched nucleotide pair as an indication of the presence of genetic variation between said test and reference nucleic acids.

REL-US-DATA: Continuation-in-part of Ser. No. 874,192, Apr. 24, 1992, abandoned.

14. 5,738,985, Apr. 14, 1998, Method for selective inactivation of viral replication; Vincent J. Miles, et al., 435/5, 6, 7.1, 254.2 [IMAGE AVAILABLE]

US PAT NO: 5,738,985 [IMAGE AVAILABLE] L13: 14 of 101

ABSTRACT:
Method for screening for an antiviral agent, by determining whether a potential agent interacts with a virus or cellular component which allows or prevents preferential translation of a virus RNA compared to a host RNA under virus infection conditions; and determining whether any interaction of the agent with the component reduces the level of translation of an RNA of the virus.

REL-US-DATA: Continuation-in-part of Ser. No. 42,024, Apr. 2, 1993, abandoned.

15. 5,723,145, Mar. 3, 1998, Transdermal absorption preparation; Yasuo Shikinami, et al., 424/448, 449 [IMAGE AVAILABLE]

US PAT NO: 5,723,145 [IMAGE AVAILABLE] L13: 15 of 101

ABSTRACT:
The present invention provides a transdermal absorption preparation whereby a drug, which takes effect with a small amount, and is liable to be decomposed, solid at ordinary temperatures, water-soluble and less absorbable into the skin, can be stored stably for a long period of time and, can be transdermally administered at a high releasing ratio and yet releasing slowly, when applied to the skin. The constitution of the present invention is as follows: a transdermal absorption preparation which comprises a drug-storing layer containing a drug and having a drug-releasing face coated with a drug-releasing controlling membrane, wherein said drug-storing layer comprises as a base a heat-sensitive segmented polyurethane represented by the general formula:

R--A--(U)--F--(U)--B--R'

wherein A and B each represents a polymer of ethylene oxide, propylene oxide, tetramethylene oxide or 1,2-butylene oxide, or a random or block copolymer thereof, R and R' each represents a terminal H, CH.sub.3, C.sub.2 H.sub.5, C.sub.3 H.sub.7 or C.sub.4 H.sub.9, A=B or A noteq.B, R=R' or R.noteq.R', F represents a constituting structure which is a moiety of a diisocyanate compound excluding two isocyanate groups, and (U) represents a urethane bond, and at least one of A and B is hydrophilic and at the same time at least one of A and B has a characteristic that it melts near the temperature of human skin, and wherein said drug-releasing controlling membrane is a phase-separated membrane comprising a mixture of a crosslinked gelatin phase and the uncrosslinked segmented polyurethane phase.

REL-US-DATA: Continuation of Ser. No. 716,047, Sep. 19, 1996, abandoned, which is a continuation of Ser. No. 448,614, May 26, 1995, abandoned.

16. 5,700,661, Dec. 23, 1997, Gene expression regulatory DNA; Ryoichi Katsumata, et al., 435/69.1, 252.32 [IMAGE AVAILABLE]

US PAT NO: 5,700,661 [IMAGE AVAILABLE] L13: 16 of 101

ABSTRACT:
The present invention provides a gene expression regulatory DNA and a

process for preparing a protein using the same.
A DNA derived from the isocitrate lyase (ICL) gene of a coryneform bacterium regulates expression of a structural gene encoding a protein when incorporated into a vector DNA together with said structural gene and introduced into a host coryneform bacterium, and a useful protein can be efficiently produced using the DNA.
REL-US-DATA: Continuation of Ser. No. 398,456, Mar. 3, 1995, abandoned, which is a division of Ser. No. 938,333, Aug. 28, 1992, Pat. No. 5,439,822.

17. 5,686,600, Nov. 11, 1997, Antibodies which bind to insect gut proteins and their use; Nadine B. Carozzi, et al., 536/23.53; 530/387.1, 387.3, 388.1 [IMAGE AVAILABLE]

US PAT NO: 5,686,600 [IMAGE AVAILABLE] L13: 17 of 101

ABSTRACT:
Antibodies, monoclonal antibodies or fragments thereof which bind to brush border membrane vesicles of insect gut and the gene or genes which encode these proteins are provided. The monoclonal antibodies bind the gut of a target insect but do not bind to mammalian brush border membranes or to plant microsomes. The antibodies and the genes encoding them find use in constructing hybrid toxins for control of insect pests.
REL-US-DATA: Division of Ser. No. 267,641, Jun. 28, 1994.

18. 5,683,916, Nov. 4, 1997, Membrane affinity apparatus and **purification** methods related thereto; Randal A. Goffe, et al., 436/535; 210/198.3, 500.21, 500.23, 500.41, 638, 656, 435/6, 180, 181, 182, 287.1, 287.2, 288.1; 436/161, 178, 518, 531, 532, 530/413, 417 [IMAGE AVAILABLE]

US PAT NO: 5,683,916 [IMAGE AVAILABLE] L13: 18 of 101

ABSTRACT
A method and apparatus for carrying out affinity **purification** of a ligate. The method comprising, (a) providing a ligate containing liquid to a first side of at least one porous hollow fiber membrane with a ligand immobilized thereto that binds and separates the ligate from the liquid, (b) withdrawing a first portion of the liquid from the first side of the porous hollow fiber membrane, (c) recirculating the first portion of liquid to the first side of the porous hollow fiber membrane, (d) repeating steps (a) to (c) until a majority of the liquid has flowed through the porous hollow fiber membrane, and (e) providing an elution solution to one side of the porous hollow fiber membrane under a pressure sufficient to cause the elution solution to flow into and through the membrane to effect disassociation of any ligate-ligand bonds wherein any ligate bound to the ligand is eluted with the elution solution.
REL-US-DATA: Continuation of Ser. No. 83,859, Jun. 28, 1993, abandoned, which is a continuation of Ser. No. 265,061, Oct. 31, 1988, abandoned.

19. 5,677,141, Oct. 14, 1997, Process for producing 7-aminocephem compound or salts thereof; Takao Isogai, et al., 435/47, 51, 256.4 [IMAGE AVAILABLE]

US PAT NO: 5,677,141 [IMAGE AVAILABLE] L13: 19 of 101

ABSTRACT:
The present invention provides a process for producing 7-aminocephem compounds or salts thereof. 7-Aminocephem compounds are produced via microorganisms transformed with a vector containing a gene capable of converting a cephalosporin compound of the formula (II): ##STR1## to a 7-aminocephem compound of the formula (I): ##STR2##
REL-US-DATA: Continuation of Ser. No. 631,906, Dec. 21, 1990, abandoned.

20. 5,674,739, Oct. 7, 1997, Human gene FOHY030 coding for tumor progression inhibitor; Andrew W. Shyjan, 435/252.3, 254.2, 320.1, 325, 348; 536/23.5 [IMAGE AVAILABLE]

US PAT NO: 5,674,739 [IMAGE AVAILABLE] L13: 20 of 101

ABSTRACT:
The present invention relates to methods and compositions for the diagnosis, prevention, and treatment of tumor progression in cells involved in human tumors such as melanomas, breast, gastrointestinal, lung, and bone tumors, various types of skin cancers, and other neoplastic conditions such as leukemias and lymphomas. Genes are identified that are differentially expressed in benign (e.g., non-malignant) tumor cells relative to malignant tumor cells exhibiting a high metastatic potential. Genes are also identified via the ability of their gene products to interact with gene products involved in the progression to, and/or aggressiveness of, neoplastic tumor disease states. The genes and gene products identified can be used diagnostically or for therapeutic intervention.
REL-US-DATA: Continuation-in-part of Ser. No. 412,431, Mar. 29, 1995, Pat. No. 5,633,161.

21. 5,674,521, Oct. 7, 1997, Enhanced loading of solutes into polymer gels and methods of use; Steven Henry Gehrke, et al., 424/423; 514/772.3, 781 [IMAGE AVAILABLE]

US PAT NO: 5,674,521 [IMAGE AVAILABLE] L13: 21 of 101

ABSTRACT:
A method of loading a drug into a crosslinked polymer network and protecting the drug from the effects of inactivation is described. The method includes the steps of contacting a biologically active solute (e.g. drug) with: (i) a gel network; (ii) a loading polymer that is somewhat immiscible with the gel; and (iii) a salt, under conditions sufficient for the biologically active solute to selectively partition into the gel and the salt and the loading polymer to be entrained in the gel. A drug delivery system including a polymer gel network and the drug to be delivered is also described. The system also includes a salt and/or a loading polymer. The system protects the drug from loss of activity. In one embodiment, the polymer gel network is capable of expanding or collapsing in response to a change in an environmental condition to which the gel is exposed, the expanding or collapsing sufficient to release the drug into an environment of use.
REL-US-DATA: Division of Ser. No. 276,462, Jul. 18, 1994, Pat. No 5,603,955.

22. 5,670,621, Sep. 23, 1997, DNA structure specific recognition protein complexes; Brian A. Donahue, et al., 530/350, 402; 536/23.1, 23.5 [IMAGE AVAILABLE]

US PAT NO: 5,670,621 [IMAGE AVAILABLE] L13: 22 of 101

ABSTRACT:
DNA structure specific recognition protein of eukaryotic origin and DNA encoding such a factor, as well as probes specific for DNA structure specific recognition protein or DNA encoding it and methods of detecting DNA structure specific recognition protein in eukaryotic cells. In particular, a mammalian cellular factor that selectively recognizes and binds DNA damaged or modified by a drug (the anticancer drug, cis-diamminedichloroplatinum (II) or cisplatin) has been identified
REL-US-DATA: Division of Ser. No. 814,964, Dec. 26, 1991, Pat. No. 5,359,047, which is a continuation-in-part of Ser. No. 539,906, Jun. 18, 1990, abandoned, which is a continuation-in-part of Ser. No. 410,981, Sep. 22, 1989, abandoned, which is a continuation-in-part of Ser. No. 247,774, Sep. 22, 1988, abandoned.

23. 5,665,582, Sep. 9, 1997, Isolation of biological materials; Albert P. Kausch, et al., 435/181, 239, 820; 536/3, 126 [IMAGE AVAILABLE]

US PAT NO: 5,665,582 [IMAGE AVAILABLE] L13: 23 of 101

ABSTRACT:
A method for the isolation and sorting of biological materials has been developed. Biological material includes chromosomes, segments of chromosomes, cell organelles, or other minute cellular components. The biological material is separated from the cellular milieu, if necessary, and anchored to a support. Examples of a support are glass coverslips, glass or polymer beads. The anchoring is by means of a reversible polymer and cross-linking system. The supported biological material may then be labelled with compositions capable of binding to said material, and with magnetic particles. Examples of the binding material include nucleic acid probes and antibodies. An example of the antibodies would be those directed to histones. Other labels, for example, fluorescein-biotin-avidin may be used. The material may be released from the support and sorted by a magnetic force. This method is an alternative to flow cytometry and presents numerous advantages in terms of time, resolution, purity, and preservation of the structure of the biological material during isolation and separation.
REL-US-DATA: Continuation-in-part of Ser. No. 605,852, Oct. 29, 1990, abandoned, which is a continuation of Ser. No. 146,434, Oct. 29, 1993, Pat. No. 5,508,164

24. 5,660,984, Aug. 26, 1997, DNA isolating apparatus comprising a non-porous DNA binding, anion exchange resin and methods of use thereof; Thomas E. Davis, et al., 435/6; 210/323.2, 455, 638, 639, 641, 654, 661; 435/30, 287.2, 288.1, 288.6 [IMAGE AVAILABLE]

US PAT NO: 5,660,984 [IMAGE AVAILABLE] L13: 24 of 101

ABSTRACT
This invention relates to isolating a DNA sample from a heterogeneous mixture of the DNA and other compounds. The invention relates in particular to isolating a plasmid DNA sample from a cleared bacterial lysate. The invention provides an apparatus and method for using the apparatus to rapidly and economically isolate a DNA sample from such a mixture without the use of hazardous chemicals.

25. 5,656,467, Aug. 12, 1997, Methods and materials for producing gene libraries; Thomas H. LaBean, et al., 435/69.1, 91.1, 320.1; 536/23.1, 23.4 [IMAGE AVAILABLE]

US PAT NO: 5,656,467 [IMAGE AVAILABLE] L13: 25 of 101

ABSTRACT:
Methods for producing libraries of diverse nucleotide sequences, and libraries of polypeptides encoded thereby, are provided. The nucleotide sequences comprise a first and a second constant region coupled to a coding sequence, wherein the coding sequence is formed by sequentially coupling nucleotides in a mixture of predetermined proportions of A, T, C, and G based upon a known amino acid profile. Libraries of vectors comprising the diverse nucleotide sequences are also provided. DNA and amino acid sequences encoding the libraries are further provided.
REL-US-DATA: Continuation of Ser. No. 184,367, Jan. 21, 1994, abandoned, which is a continuation of Ser. No. 819,354, Jan. 9, 1992, abandoned.

26. 5,643,751, Jul. 1, 1997, Borrelia burgdorferi antigens and uses thereof; John M. Robinson, et al., 435/69.1, 69.3, 69.7, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,643,751 [IMAGE AVAILABLE] L13: 26 of 101

ABSTRACT
This invention relates generally to an assay for Lyme disease which detects the antibody to Borrelia burgdorferi, the causative agent of Lyme disease. More specifically, the assay employs antigens derived from amino acid regions in the flagellum of Borrelia burgdorferi. These antigens are immunoreactive with antibodies to Borrelia burgdorferi but are not substantially immunoreactive with antibodies to Treponema pallidum, the syphilis causing agent. DNA sequences of the antigens, clones and vectors containing the DNA sequences are also disclosed. Polypeptides derived therefrom can be used as reagents for the detection of antibody to Borrelia burgdorferi in the body fluids from individuals with Lyme disease.
REL-US-DATA: Division of Ser. No. 779,704, Oct. 21, 1991.

27. 5,643,733, Jul. 1, 1997, Borrelia burgdorferi antigens and uses thereof; John M. Robinson, et al., 435/7.1, 7.2, 7.3, 7.32; 436/518 [IMAGE AVAILABLE]

US PAT NO: 5,643,733 [IMAGE AVAILABLE] L13: 27 of 101

ABSTRACT
This invention relates generally to an assay for Lyme disease which detects the antibody to Borrelia burgdorferi, the causative agent of Lyme disease. More specifically, the assay employs antigens derived from amino acid regions in the flagellum of Borrelia burgdorferi. These antigens are immunoreactive with antibodies to Borrelia burgdorferi but are not substantially immunoreactive with antibodies to Treponema pallidum, the syphilis causing agent. DNA sequences of the antigens, clones and vectors containing the DNA sequences are also disclosed. Polypeptides derived therefrom can be used as reagents for the detection of antibody to Borrelia burgdorferi in the body fluids from individuals with Lyme disease.
REL-US-DATA: Division of Ser. No. 779,704, Oct. 21, 1991.

28. 5,637,462, Jun. 10, 1997, Cathepsin C homolog; Roger Coleman, et al., 435/6, 91.2; 536/22.1, 23.1, 24.3, 24.31 [IMAGE AVAILABLE]

US PAT NO: 5,637,462 [IMAGE AVAILABLE] L13: 28 of 101

ABSTRACT:
The present invention provides nucleotide and amino acid sequences that identify and encode a new cathepsin C homolog (RCP) expressed in THP-1 cells. The present invention also provides for antisense molecules to the nucleotide sequences which encode RCP, expression vectors for the production of purified RCP, antibodies capable of binding specifically to RCP, hybridization probes or oligonucleotides for the detection of RCP-encoding nucleotide sequences, genetically engineered host cells for the expression of RCP, diagnostic tests for activation of monocyte/macrophages based on RCP-encoding nucleic acid molecules, and use of the protein to produce antibodies capable of binding specifically to the protein and use of the protein to screen for inhibitors.

29. 5,633,161, May 27, 1997, Murine gene fomy030 coding for tumor progression inhibitor; Andrew W. Shyjan, 435/325, 69.1, 252.3, 252.35, 254.2, 320.1, 348, 352, 357, 358, 365, 369, 536/23.1, 23.5 [IMAGE AVAILABLE]

US PAT NO: 5,633,161 [IMAGE AVAILABLE] L13: 29 of 101

ABSTRACT:
The present invention relates to compositions for the diagnosis, prevention and treatment of tumor progression. Novel nucleic acid molecules are identified that are expressed at higher levels in benign (e.g., non-malignant) tumor cells compared to malignant tumor cells exhibiting a high metastatic potential. The nucleic acids and cells including these nucleic acids can be used diagnostically or for therapeutic intervention.

30. 5,632,957, May 27, 1997, Molecular biological diagnostic systems including electrodes; Michael J. Heller, et al., 422/68.1, 50, 52, 55, 56, 61, 62, 63, 67, 69, 81, 82.01, 82.02, 82.03, 82.04, 82.05, 435/6, 7.1, 173.1; 436/501; 536/22.1, 23.1, 24.1 [IMAGE AVAILABLE]

US PAT NO: 5,632,957 [IMAGE AVAILABLE] L13: 30 of 101

ABSTRACT:
A system for performing molecular biological diagnosis, analysis and multi-step and multiplex reactions utilizes a self-addressable, self-assembling microelectronic system for actively carrying out controlled reactions in microscopic formats. These reactions include most molecular biological procedures, such as nucleic acid hybridization, antibody/antigen reaction, and clinical diagnostics. Multi-step combinatorial biopolymer synthesis may be performed. A controller interfaces with a user via input/output devices, preferably including a graphical display. Independent electronic control is achieved for the individual microlocations. In the preferred embodiment, the controller interfaces with a power supply and interface, the interface providing selective connection to the microlocations, polarity reversal, and optionally selective potential or current levels to individual electrodes. A system for performing sample preparation, hybridization and detection and data analysis integrates multiple steps within a combined system. Charged materials are transported preferably via free field electrophoresis. DNA complexity reduction is achieved preferably by binding of DNA to a support, followed by cleaving unbound materials, such as by restriction enzymes, followed by transport of the cleaved DNA fragments. Active, programmable matrix devices are formed in a variety of formats, including a square matrix pattern with fanned out electrical connections, an array having electrical connections and optionally optical connections from beneath the specific microlocations. A highly automated DNA diagnostic system results.
REL-US-DATA: Continuation-in-part of Ser. No. 271,882, Jul. 7, 1994, which is a continuation-in-part of Ser. No. 146,504, Nov. 1, 1993.

31. 5,624,834, Apr. 29, 1997, Cloning and expression of the exo-polygalacturonase gene from aspergillus; Margo A. Kusters-Van Someren, et al., 435/201, 252.3, 254.3, 320.1, 536/23.2 [IMAGE AVAILABLE]

US PAT NO: 5,624,834 [IMAGE AVAILABLE] L13: 31 of 101

ABSTRACT:

The present invention discloses a DNA sequence encoding the exo-polygalacturonase gene form Aspergillus. Specifically the Aspergillus tubigensis exo-polygalacturonase gene is cloned and expressed. The invention relates to vectors comprising the exo-polygalacturonase coding

sequence and to host cells transformed with such vectors. The invention further relates to the production of recombinant exo-polygalacturonase and the use of this protein.

32. 5,624,543, Apr. 29, 1997, Aqueous phase production of hydrogen peroxide and catalysts for use therein; James E. Guillet, et al., 205/688; 204/157.5; 423/588 [IMAGE AVAILABLE]

US PAT NO: 5,624,543 [IMAGE AVAILABLE] L13: 32 of 101

ABSTRACT
Hydrogen peroxide is produced by a process which uses as catalyst a polymer which has anthraquinone/anthrahydroquinone groups attached to it, and which exhibits differential solubility in water. The polymer is water soluble under one set of conditions, e.g. temperature range, but insoluble under another set of such conditions. Accordingly, the polymer bound anthrahydroquinone groups are oxidized in aqueous solution to form anthraquinone groups and hydrogen peroxide, which dissolves in the aqueous medium. Then the conditions, e.g. temperature, are changed to precipitate the polymer, which can readily be separated off, ready for re-use.

33. 5,623,057, Apr. 22, 1997, Pneumococcal polysaccharide conjugate vaccine; Stephen Marburg, et al., 530/404; 424/193.1, 194.1, 197.1, 234.1, 237.1, 241.1, 244.1, 256.1, 260.1; 530/403, 405, 406, 408, 409 [IMAGE AVAILABLE]

US PAT NO: 5,623,057 [IMAGE AVAILABLE] L13: 33 of 101

ABSTRACT
A novel conjugate vaccine comprising partially hydrolyzed, highly purified, capsular polysaccharide (Ps) from Streptococcus pneumoniae bacteria (pneumococci, Pn) linked to an immunogenic carrier protein, is produced by a new process. The conjugate is useful in the prevention of pneumococcal infections. Vaccines comprising a mixture of from one to ten different pneumococcal polysaccharide-immunogenic protein (Pn-Ps-PRO) conjugates induce broadly protective recipient immune responses against the cognate pathogens from which the polysaccharide components are derived. Young children and infants younger than 2 years old, normally unable to mount a protective immune response to the Pn-Ps alone, exhibit protective immune responses upon vaccination with these Pn-Ps-PRO conjugates.
REL-US-DATA: Continuation of Ser. No. 807,942, Dec. 19, 1991, abandoned, which is a continuation-in-part of Ser. No. 646,570, Jan. 28, 1991, abandoned.

34. 5,603,955, Feb. 18, 1997, Enhanced loading of solutes into polymer gels; Stevin H. Gehrke, et al., 424/484; 252/315.2, 315.3, 315.4; 424/486, 487, 488; 514/944 [IMAGE AVAILABLE]

US PAT NO: 5,603,955 [IMAGE AVAILABLE] L13: 34 of 101

ABSTRACT:
A method of loading a drug into a crosslinked polymer network and protecting the drug from the effects of inactivation is described. The method includes the steps of contacting of a biologically active solute (i.e., drug) with:(i) a gel network; (ii) a second protectant polymer that is somewhat immiscible with the gel; and (iii) a protectant salt, under conditions sufficient for the biologically active solute to selectively partition into the gel and the protectants to be entrained in the gel. Most preferably, the gel network is a crosslinked gel responsive to a change in an environmental condition to which the gel is exposed.

35. 5,602,096, Feb. 11, 1997, Method of using a secretable glial mitogenic factor to induce acetylcholine receptor synthesis; Andrew Goodearl, et al., 514/12; 435/69.1; 514/2; 530/350 [IMAGE AVAILABLE]

US PAT NO: 5,602,096 [IMAGE AVAILABLE] L13: 35 of 101

ABSTRACT:
Disclosed is the characterization and **purification** of **DNA** encoding numerous polypeptides useful for the stimulation of glial cell (particularly, Schwann cell mitogenesis and treating glial cell tumors. Also disclosed are DNA sequences encoding novel polypeptides which may have use in stimulating glial cell mitogenesis and treating glial cell tumors. Methods for the synthesis, purification and testing of both known and novel polypeptides for their use as both therapeutic and diagnostic aids in the treatment of diseases involving glial cells are also provided. Methods are also provided for the use of these polypeptides for the preparation of antibody probes useful for both diagnostic and therapeutic use in diseases involving glial cells. The present invention is specifically directed to a method of using a secretable glial growth factor to induce acetycholine receptor synthesis.
REL-US-DATA: Division of Ser. No. 36,555, Mar. 24, 1993, Pat. No. 5,530,109, which is a continuation-in-part of Ser. No. 965,173, Oct. 23, 1992, abandoned, Ser. No. 940,389, Sep. 3, 1992, abandoned, Ser. No. 907,138, Jun. 30, 1992, abandoned, and Ser. No. 863,703, Apr. 3, 1992, abandoned.

36. 5,602,005, Feb. 11, 1997, Primate intra-acrosomal sperm antigen for use in a contraceptive vaccine; John C. Herr, et al., 435/69.3; 424/185.1, 192.1; 435/69.7; 530/350, 413 [IMAGE AVAILABLE]

US PAT NO: 5,602,005 [IMAGE AVAILABLE] L13: 36 of 101

ABSTRACT:
A substantially purified intra-acrosomal primate sperm antigen useful in a contraceptive vaccine is disclosed herein. The antigen remains associated with primate sperm after the acrosome reaction. In particular, it remains associated with the inner and outer acrosomal membranes. Modified antigens and fragments thereof prepared by protein modification techniques are also disclosed as well as methods for purifying and using the antigens. Also disclosed are monoclonal and polyclonal antibodies to the antigen and methods of making and using such antibodies. Methods of use include purification of the antigen or use in various diagnostic techniques. Also disclosed are cDNA, expression vectors, and transformed microorganisms that produce the antigen.
REL-US-DATA: Continuation of Ser. No. 858,798, Mar. 27, 1992, abandoned, which is a continuation-in-part of Ser. No. 481,491, Feb. 16, 1990, Pat. No. 5,436,157, Jul. 25, 1995, which is a continuation-in-part of Ser. No. 318,551, Mar. 3, 1989, abandoned.

37. 5,601,831, Feb. 11, 1997, Vaccines for nontypable Haemophilus influenzae; Bruce A. Green, et al., 424/256.1, 185.1, 192.1, 193.1, 282.1 [IMAGE AVAILABLE]

US PAT NO: 5,601,831 [IMAGE AVAILABLE] L13: 37 of 101

ABSTRACT:
Protein "e" of H. influenzae, a lipoprotein of approximately 28,000 daltons, has been purified and sequenced. Protein "e" and peptides or proteins having a shared epitope, can be used to vaccinate against non-typable (and typable) H. influenzae and to prevent otitis media caused by H. influenzae. For this purpose, protein "e" or derivatives thereof can be produced in native, synthetic or recombinant forms and can be administered alone or in conjunction with other antigens of H. influenzae. Protein "e" can also be used in multivalent vaccines designed for H. influenzae and one or more other infectious organisms.
REL-US-DATA: Continuation-in-part of Ser. No. 320,971, Mar. 9, 1989, abandoned.

38. 5,574,007, Nov. 12, 1996, Polypeptide capable of interacting with thrombin; Michitaka Zushi, et al., 514/12, 2; 530/350, 399 [IMAGE AVAILABLE]

US PAT NO: 5,574,007 [IMAGE AVAILABLE] L13: 38 of 101

ABSTRACT:
Disclosed is a substantially pure polypeptide having a specific amino acid sequence containing (a) an amino acid residue selected from the group consisting of Asp, Glu and Gla wherein Gla represents a .gamma.-carboxyglutamic acid residue or (b) a peptide or polypeptide residue consisting of at least two amino acid residues selected from Asp, Glu and Gla, wherein the above-mentioned at least two amino acid residues are all the same or combinations of the Asp, Glu and Gla. The polypeptide is capable of interacting with thrombin to form a binding therebetween, thereby exhibiting an activity to inhibit the blood coagulation and platelet aggregation by thrombin and/or an activity to promote the thrombin-catalyzed activation of protein C. This novel polypeptide has a low molecular weight so that it is suitable for oral or nasal administration.
REL-US-DATA: Continuation of Ser. No. 740,492, Aug. 5, 1991, abandoned

39. 5,563,191, Oct. 8, 1996, Phase-separated membrane; Yasuo Shikinami, 524/22; 525/54.1 [IMAGE AVAILABLE]

US PAT NO: 5,563,191 [IMAGE AVAILABLE] L13: 39 of 101

ABSTRACT:

A phase-separated membrane in which the control of permeation rate and the control of permeation amount of a minute amount of drugs or other chemical substances are easily performed is provided. The phase-separated membrane has a constitution that a crosslinked gelatin phase 1 and an uncrosslinked segmented polyurethane phase 2 are present as a mixture. The segmented polyurethane phase is in a solid state at ordinary temperatures and is molten into a liquid state at 30 degree. to 40 degree. C. which is near the temperature of human skin.

40. 5,559,015, Sep. 24, 1996, Recombinant-DNA mediated production of xanthan gum; Michael A. Capage, et al., 435/104, 252.3, 252.33, 252.34, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,559,015 [IMAGE AVAILABLE] L13: 40 of 101

ABSTRACT

Methods for the recombinant-DNA mediated production of xanthan gum and gum variants structurally related to xanthan are disclosed. The methods in part involve the synthesis of these polysaccharides in anaerobic and/or denitrifying hosts.

In particular, plasmids pX209 and pRK290-H366 are disclosed which contain the genes, isolated from X. campestris, encoding Transferase I, Transferases II, Transferase III, Transferase IV, Transferase V, Ketalase, Acetylase and Polymerase. These plasmids have been deposited in the American Type Culture Collection under Accession Nos. 67051 and 67049, respectively.

REL-US-DATA: Continuation of Ser. No. 815,615, Jan. 7, 1992, abandoned, which is a continuation of Ser. No. 333,868, Apr. 3, 1989, abandoned, which is a continuation of Ser. No. 188,687, Apr. 27, 1988, abandoned, which is a continuation of Ser. No. 29,530, Mar. 23, 1987, abandoned, which is a continuation-in-part of Ser. No. 844,332, Mar. 26, 1986, abandoned.

41. 5,543,332, Aug. 6, 1996, Water-soluble, polymer-based reagents and conjugates comprising moieties derived from divinyl sulfone; Allan O. F. Lihme, et al., 436/528, 529, 530, 531, 532, 823, 828; 530/391.1, 411, 813, 814, 816 [IMAGE AVAILABLE]

US PAT NO: 5,543,332 [IMAGE AVAILABLE] L13: 41 of 101

ABSTRACT:

Water soluble reagents are claimed, comprising a water-soluble polymeric carrier molecule having attached thereto more than one connecting moiety wherein the connecting moiety is derived from divinyl sulfone, and wherein each connecting moiety is attached to a reactive functional group on the polymeric molecule, and wherein the reagents are capable of reaction with a molecular species having a functional group which is reactive towards the terminal vinyl group of the more than one connecting moiety and the molecular species is selected from the group consisting of labelling species, marking species, and targeting species.

42. 5,516,905, May 14, 1996, Antibiotic compounds and methods to treat gram-positive bacterial and mycoplasmal infections; Neal C. Brown, et al., 544/312, 276, 277, 321 [IMAGE AVAILABLE]

US PAT NO: 5,516,905 [IMAGE AVAILABLE] L13: 42 of 101

ABSTRACT:

A method of inhibiting replication of mycoplasmal and Gram-positive bacteria is described. Useful new compounds for in vivo and in vitro inhibition and therapy for infections utilize HPUra-like compounds are also provided. These include a number of novel 3-substituted uracil and isocytosine compounds, and 10-substituted guanine and adenine compounds.

43. 5,512,440, Apr. 30, 1996, Process for lysing Mycobacteria; James A. Down, et al., 435/6, 91.2, 259 [IMAGE AVAILABLE]

US PAT NO: 5,512,440 [IMAGE AVAILABLE] L13: 43 of 101

ABSTRACT:

The invention provides a rapid process for lysing Mycobacteria. In one embodiment is provided a process for lysing Mycobacteria which comprises exposing the bacteria to a lysis effective amount of heat. A particularly effective method for providing the necessary heat is in the form of forced hot air such as in a forced hot air oven. The process of the invention is particularly advantageous since only one step is involved, it is expedient compared to prior methods, and little instrumentation is necessary. By practicing the present invention it is possible to lyse Mycobacteria with minimal effort. In addition, practicing the invention results in liberating cellular components including deoxyribonucleic acid (DNA) from Mycobacteria. Not only is DNA liberated, but the DNA is suited for subsequent analysis by way of probe hybridization, restriction enzyme analysis, and the like.

REL-US-DATA: Continuation-in-part of Ser. No. 10,467, Jan. 28, 1993, Pat. No. 5,376,527, which is a continuation of Ser. No. 809,806, Dec. 18, 1991, abandoned.

44. 5,510,255, Apr. 23, 1996, Plant fatty acid synthases; Vic C. Knauf, et al., 435/91.3, 69.1, 70.1; 536/23.6, 24.5; 800/287 [IMAGE AVAILABLE]

US PAT NO: 5,510,255 [IMAGE AVAILABLE] L13: 44 of 101

ABSTRACT:

By this invention, compositions and methods of use related to .beta.-ketoacyl-ACP synthase, hereinafter also referred to as "synthase", are provided. Also of interest are methods and compositions of amino acid and nucleic acid sequences related to biologically active plant synthase(s).

In particular, synthase protein preparations which have relatively high turnover (specific activity) are of interest for use in a variety of applications, in vitro and in vivo. Especially, protein preparations having synthase I and/or synthase II activities are contemplated hereunder. Synthase activities are distinguished by the preferential activity towards longer and shorter acyl-ACPs. Protein preparations having preferential activity towards shorter chain length acyl-ACPs are synthase I-type. Synthases having preferential activity towards longer chain length acyl-ACPs are synthase II-type. Of special interest are synthases obtainable from Ricinus communis.

REL-US-DATA: Continuation-in-part of Ser. No. 568,493, Aug. 15, 1990, abandoned, and Ser. No. 721,761, Jun. 26, 1991, Pat. No. 5,475,099.

45. 5,508,164, Apr. 16, 1996, Isolation of biological materials using magnetic particles; Albert P. Kausch, et al., 435/6, 7.2, 82 [IMAGE AVAILABLE]

US PAT NO: 5,508,164 [IMAGE AVAILABLE] L13: 45 of 101

ABSTRACT:

A method for the isolation and sorting of biological materials has been developed. Biological material includes chromosomes, segments of chromosomes, cell organelles, or other minute cellular components. The biological material is separated from the cellular milieu, if necessary, and anchored to a support. Example of a support are glass coverslips, glass or polymer beads. The anchoring is by means of a reversible cross-linking system. The supported biological material is then labelled with compositions capable of binding to said material, and with magnetic particles. Examples of the binding material include nucleic acid probes and antibodies. An example of the antibodies would be those directed to histones. Other labels, for example, fluoresceinbiotin-avidin may be used. The material may be released from the support and sorted by a magnetic force. This method is an alternative to flow cytometry and presents numerous advantages in terms of time, resolution, purity, and preservation of the structure of the biological material during isolation and separation.

REL-US-DATA: Continuation of Ser. No. 605,852, Oct. 29, 1990, abandoned.

46. 5,496,712, Mar. 5, 1996, High molecular weight collagen-like protein polymers; Joseph Cappello, et al., 435/69.1, 252.33; 530/356, 388.9, 389.8; 536/23.5 [IMAGE AVAILABLE]

US PAT NO: 5,496,712 [IMAGE AVAILABLE] L13: 46 of 101

ABSTRACT:

Collagen-like polymers having repetitive triads are produced having reduced proline content, where glycine is the initial amino acid and the subsequent amino acids are varied, while retaining at least a minimum percentage of prolines. The resulting polymers have collagen-like properties, but are capable of being produced in unicellular microorganisms at high molecular weights and in high efficiency. The polymers while retaining collagen-like characteristics, include various

novel sequences which impart new characteristics, finding wide use in photographic, medical, structural and fiber applications.
REL-US-DATA: Continuation-in-part of Ser. No. 791,960, Nov. 12, 1991, abandoned, which is a continuation-in-part of Ser. No. 609,716, Nov. 6, 1990.

47. 5,484,610, Jan. 16, 1996, pH and temperature sensitive terpolymers for oral drug delivery; You H. Bae, 424/487, 463, 482, 514/772.5, 772.6; 526/263, 265, 291, 292.95, 303.1, 307.6, 916 [IMAGE AVAILABLE]

US PAT NO: 5,484,610 [IMAGE AVAILABLE] L13: 47 of 101

ABSTRACT
Terpolymers which are sensitive to pH and temperature are useful carriers for conducting bioactive agents through the gastric juices of the stomach in protected form. Such terpolymers swell at the higher physiologic pH of the intestinal tract causing release of the bioactive agents into the intestine. The terpolymers are linear and are made up of 35 to 99 wt % of a temperature sensitive component, which imparts to the terpolymer **LCST** (lower critical solution temperature) properties below body temperatures, 1 to 30 wt % of a pH sensitive component having a pK.sub.a in the range of from 2 to 8 which functions through ionization or deionization of carboxylic acid groups to prevent the bioactive agent from being lost at low pH but allows bioactive agent release at physiological pH of about 7.4 and a hydrophobic component which stabilizes the **LCST** below body temperatures and compensates for bioactive agent effects on the terpolymers. Such terpolymers provide for safe bioactive agent loading, a simple procedure for dosage form fabrication and the terpolymer functions as a protective carrier in the acidic environment of the stomach and also protects the bioactive agents from digestive enzymes until the bioactive agent is released in the intestinal tract.

48. 5,475,099, Dec. 12, 1995, Plant fatty acid synthases; Vic C. Knauf, et al., 536/23.6, 435/134, 232, 252.3; 536/23.2 [IMAGE AVAILABLE]

US PAT NO: 5,475,099 [IMAGE AVAILABLE] L13: 48 of 101

ABSTRACT:
By this invention, compositions and methods of use related to .beta.-ketoacyl-ACP synthase, hereinafter also referred to as "synthase", are provided. Also of interest are methods and compositions of amino acid and nucleic acid sequences related to biologically active plant synthase(s).
In particular, synthase protein preparations which have relatively high turnover (specific activity) are of interest for use in a variety of applications, in vitro and in vivo. Especially, protein preparations having synthase I and/or synthase II activities are contemplated hereunder. Synthase activities are distinguished by the preferential activity towards longer and shorter acyl-ACPs. Protein preparations having preferential activity towards shorter chain length acyl-ACPs are synthase I-type. Synthases having preferential activity towards longer chain length acyl-ACPs are synthase II-type. Of special interest are synthases obtainable from Ricinus communis.
REL-US-DATA: Continuation-in-part of Ser. No. 568,493, Aug. 15, 1990, abandoned.

49. 5,462,867, Oct. 31, 1995, Covalent attachment of macromolecules to polysulfones or polyethersulfones modified to contain functionalizable chain ends; A. R. M. Azad, et al., 435/181, 180; 436/531, 532, 824; 530/413, 815, 816; 568/28 [IMAGE AVAILABLE]

US PAT NO: 5,462,867 [IMAGE AVAILABLE] L13: 49 of 101

ABSTRACT:
A hydrophobic polymer such as polysulfone or polyethersulfone is modified to contain an increased number of functionalizable chain ends such as by treating with an alkali hydroxide to provide hydroxyl groups. A linker is covalently bonded to a chain end of the polymer and a macromolecule is covalently bonded to the linker. A ligand may be covalently bonded to the macromolecule. The macromolecule can be a natural polymer, a synthetic polymer or a biologically active species. The hydrophobic polymer is preferably in the form of a microporous membrane. By the use of a four-component dope composition, substantially isotropic microporous structures in the form of flat sheets or hollow fibers are produced. An improved spinnerette assembly is provided for the production of hollow fibers.
REL-US-DATA: Continuation of Ser. No. 956,432, Oct. 1, 1992, abandoned, which is a continuation of Ser. No. 258,406, Oct. 17, 1988, abandoned.

50. 5,449,736, Sep. 12, 1995, Water soluble phosphorylated polysiloxanes; Israel Cabasso, et al., 528/25, 27; 549/214; 556/405 [IMAGE AVAILABLE]

US PAT NO: 5,449,736 [IMAGE AVAILABLE] L13: 50 of 101

ABSTRACT:
This invention relates to a novel family of phosphorylated polysiloxanes which are non-ionic and water soluble. When these polysiloxanes are dissolved in water, the resulting solutions exhibit low surface tensions. The invention also relates to phosphorylated polysiloxanes which are gels or hydrogels. The invention further contemplates methods of synthesizing the phosphorylated polysiloxanes.

51. 5,439,822, Aug. 8, 1995, Gene expression regulatory DNA; Ryoichi Katsumata, et al., 435/252.32, 69.1, 195, 320.1; 536/24.1 [IMAGE AVAILABLE]

US PAT NO: 5,439,822 [IMAGE AVAILABLE] L13: 51 of 101

ABSTRACT:
The present invention provides a gene expression regulatory DNA and a process for preparing a protein using the same.
A DNA derived from the isocitrate lyase (ICL) gene of a coryneform bacterium regulates expression of a structural gene encoding a protein when incorporated into a vector DNA together with said structural gene and introduced into a host coryneform bacterium, and a useful protein can be efficiently produced using the DNA.

52. 5,436,157, Jul. 25, 1995, Human intra-acrosomal sperm antigen; John C. Herr, et al., 435/252.33; 424/185.1, 811; 435/69.1, 69.3, 252.3, 320.1; 530/852; 536/23.5 [IMAGE AVAILABLE]

US PAT NO: 5,436,157 [IMAGE AVAILABLE] L13: 52 of 101

ABSTRACT:
A substantially purified intra-acrosomal human sperm antigen useful in a contraceptive vaccine is disclosed herein. The antigen remains associated with human sperm after the acrosome reaction. In particular, it remains associated with the inner and outer acrosomal membranes. Modified antigens and fragments thereof prepared by protein modification techniques are also disclosed as well as methods for purifying and using the antigens. Also disclosed are monoclonal and polyclonal antibodies to the antigen and methods of making and using such antibodies. Methods of use include purification of the antigen or use in various diagnostic techniques. Also disclosed are cDNA, expression vectors, and transformed microorganisms that produce the antigen.
REL-US-DATA: Continuation-in-part of Ser. No. 318,551, Mar. 3, 1989, abandoned.

53. 5,432,064, Jul. 11, 1995, Process for dephosphorylating linear polynucleotide substrate with prosphatase form aspergillus niger; John P. Markwell, et al., 435/91.1, 196, 254.3, 917 [IMAGE AVAILABLE]

US PAT NO: 5,432,064 [IMAGE AVAILABLE] L13: 53 of 101

ABSTRACT:
The present invention relates to the preparation of a novel heat-labile phosphatase enzyme from the filamentous fungus Aspergillus niger. This A. niger phosphatase enzyme has a native molecular weight of approximately 80,000 daltons, and is shown by polyacrylamide gel electrophoresis under denaturing conditions to be an alpha-2 dimer consisting of identical subunits of molecular weight of approximately 37,000 daltons each. The native intact enzyme molecule has an isoelectric point (pI) of 4.6, and exhibits optimal functional activity under reaction conditions of neutral to slightly alkaline pH conditions (about pH 7.0 to about pH 8.5). This enzyme has two characteristics which make it valuable in molecular biology laboratory protocols. First, the enzyme is readily inactivated by mild heating conditions (50.degree. C.); and second, the enzyme is highly specific for DNA as a substrate for the hydrolysis reaction; it does not hydrolyze adenosine triphosphate (ATP). This unique characteristic permits the simultaneous dephosphorylation and labeled rephosphorylation of DNA in the presence of polynucleotide kinase and labeled ATP, and eliminates the requirement for a multiplicity of steps in this DNA end-labeling process.
REL-US-DATA: Division of Ser. No. 605,539, Oct. 29, 1990, Pat. No. 5,183,752.

54. 5,424,205, Jun. 13, 1995, Amyloidin protease and uses thereof; Harry F. Dovey, et al., 435/226, 219 [IMAGE AVAILABLE]

US PAT NO: 5,424,205 [IMAGE AVAILABLE] L13: 54 of 101

ABSTRACT:
A proteolytic enzyme isolated from human tissue which exhibits a proteolytic activity to hydrolyze Met-Asp peptide bond in an amyloid-like substrate is disclosed. This enzyme has been designated "amyloidin" because it proteolytically cleaves a Met-Asp bond similar to the one present in the amyloid precursor protein to release a fragment having the mature Asp terminus of the .beta.-amyloid peptide. Antibodies to the amyloidin protease are also provided. Methods to isolate and purify the amyloidin protease are provided, as well as assays to screen for inhibitors of the amyloidin protease. Also disclosed is the gene encoding the protease and methods for expression of the protease by recombinant DNA means.
REL-US-DATA: Division of Ser. No. 766,351, Sep. 30, 1991, Pat. No. 5,292,652, which is a continuation-in-part of Ser. No. 594,122, Oct. 5, 1990, abandoned.

55. 5,376,527, Dec. 27, 1994, Process for lysing mycobacteria; Jillian A. Robson, et al., 435/6, 91.2, 259 [IMAGE AVAILABLE]

US PAT NO: 5,376,527 [IMAGE AVAILABLE] L13: 55 of 101

ABSTRACT:
The invention provides a rapid process for lysing Mycobacteria. In one embodiment is provided a process for lysing Mycobacteria which comprises exposing the bacteria to a lysis effective amount of heat. The process of the invention is particularly advantageous since only one step is involved, it is expedient compared to prior methods, and little instrumentation is necessary. By practicing the present invention it is possible to lyse Mycobacteria with minimal effort. In addition, practicing the invention results in liberating cellular components including deoxyribonucleic acid (DNA) from Mycobacteria. Not only is DNA liberated, but the DNA is suited for subsequent analysis by way of probe hybridization, restriction enzyme analysis, and the like.
REL-US-DATA: Continuation of Ser. No. 809,806, Dec. 18, 1991, abandoned.

56. 5,359,047, Oct. 25, 1994, Nucleic acids encoding DNA structure-specific recognition protein and uses therefor; Brian A. Donahue, et al., 536/23.5; 435/6, 252.33, 320.1; 530/350; 536/23.1 [IMAGE AVAILABLE]

US PAT NO: 5,359,047 [IMAGE AVAILABLE] L13: 56 of 101

ABSTRACT:
DNA structure specific recognition protein of eukaryotic origin and DNA encoding such a factor, as well as probes specific for DNA structure specific recognition protein or DNA encoding it and methods of detecting DNA structure specific recognition protein in eukaryotic cells. In particular, a mammalian cellular factor that selectively recognizes and binds DNA damaged or modified by a drug (the anticancer drug, cis-diamminedichloroplatinum (II) or cisplatin) has been identified.
REL-US-DATA: Continuation-in-part of Ser. No. 539,906, Jun. 18, 1990, abandoned, which is a continuation-in-part of Ser. No. 410,981, Sep. 22, 1989, abandoned, which is a continuation-in-part of Ser. No. 247,774, Sep. 22, 1988, abandoned.

57. 5,322,769, Jun. 21, 1994, Methods for using CKS fusion proteins; Timothy J. Bolling, et al., 435/5, 7.1, 7.2, 7.92; 530/324, 327 [IMAGE AVAILABLE]

US PAT NO: 5,322,769 [IMAGE AVAILABLE] L13: 57 of 101

ABSTRACT:
Improved methods for detecting antibodies in test samples. The improvement comprises uses CKS-fusion proteins specific for the antibodies in assays such as screening assays, competitive assays, confirmatory assays and immunodot assays. Test kits which contain these CKS-fusion proteins useful in such assays also are provided.
REL-US-DATA: Continuation-in-part of Ser. No. 276,263, Nov. 23, 1988, Pat. No. 5,124,255, which is a continuation-in-part of Ser. No. 167,067, Mar. 11, 1988, abandoned.

58. 5,320,840, Jun. 14, 1994, Continuous release pharmaceutical compositions; Roger Camble, et al., 424/85.1; 514/964, 965, 530/351, 406, 410, 411 [IMAGE AVAILABLE]

US PAT NO: 5,320,840 [IMAGE AVAILABLE] L13: 58 of 101

ABSTRACT:
Pharmaceutical compositions for continuous release of a physiologically active substance in which the physiologically active substance comprises a polypeptide covalently conjugated to a water soluble polymer show particularly desirable release characteristics. Polypeptides for use in the pharmaceutical compositions include G-CSF and solution stable derivatives thereof, human calcitonin and interleukin-2. The material of the composition may be a polylactide or biodegradable hydrogel derived from an amphipathic block copolymer.
The compositions enable a therapeutically effective polypeptide to be continuously released over a prolonged period of time following a single administration of the pharmaceutical composition to a patient.

59. 5,314,580, May 24, 1994, Process for the removal of ink, resin, and adhesive residues from paper, textile fabrics and solid surfaces; Venanzio Di Tullio, 162/5, 189 [IMAGE AVAILABLE]

US PAT NO: 5,314,580 [IMAGE AVAILABLE] L13: 59 of 101

ABSTRACT:
A process for the preparation and use of a cleaning solution with both foaming and non foaming properties which can be used to de ink paper or clean surfaces which have been soiled either by the pulping of virgin or secondary recycled fiber or natural usage.

60. 5,296,231, Mar. 22, 1994, **Purification** and administration of **DNA** repair enzymes; Daniel B. Yarosh, 424/450, 94.5, 94.6; 435/193, 196 [IMAGE AVAILABLE]

US PAT NO: 5,296,231 [IMAGE AVAILABLE] L13: 60 of 101

ABSTRACT:

Methods for purifying DNA repair enzymes are provided in which an aqueous solution of a DNA repair enzyme in an impure state is applied to a molecular sieve column having an exclusion limit which will retard the DNA repair enzyme but will not retard contaminants larger than the DNA repair enzyme. The DNA repair enzyme in an enhanced state of purity is eluted isocratically from the molecular sieve column in an elution buffer and applied directly to a DNA affinity column in the same buffer without intermediate dialysis, ultrafiltration, or other procedures. The DNA repair enzyme is eluted from the DNA affinity column using, for example, a salt gradient. The method is rapid, inexpensive, simple to perform, and has been found to produce a homogeneous final product. In accordance with other aspects of the invention, the purified DNA repair enzymes are encapsulated in liposomes and administered to living cells in situ. This form of administration has been found to be non-toxic to the cells and to result in increased incision of damaged DNA, enhanced DNA repair synthesis, and increased cell survival after exposure to ultraviolet light. In certain preferred embodiments, DNA repair enzymes are administered in pH sensitive liposomes.
REL-US-DATA: Continuation-in-part of Ser. No. 215,566, Jul. 6, 1988, Pat. No. 5,077,211.

61. 5,292,652, Mar. 8, 1994, Amyloidin protease and uses thereof; Harry F. Dovey, et al., 435/226, 219 [IMAGE AVAILABLE]

US PAT NO: 5,292,652 [IMAGE AVAILABLE] L13: 61 of 101

ABSTRACT:
A proteolytic enzyme isolated from human tissue which exhibits a proteolytic activity to hydrolyze Met-Asp peptide bond in an amyloid-like substrate is disclosed. This enzyme has been designated "amyloidin" because it proteolytically cleaves a Met-Asp bond similar to the one present in the amyloid precursor protein to release a fragment having the mature Asp terminus of the .beta.-amyloid peptide. Antibodies to the amyloidin protease are also provided. Methods to isolate and purify the amyloidin protease are provided, as well as assays to screen for inhibitors of the amyloidin protease. Also disclosed is the gene encoding the protease and methods for expression of the protease by recombinant DNA means.
REL-US-DATA: Continuation-in-part of Ser. No. 594,122, Oct. 5, 1990, abandoned.

62. 5,277,884, Jan. 11, 1994, Solvents for the selective removal of H sub 2 S from gases containing both H sub 2 S and CO sub 2; Reuel Shinnar, et al., 423/226, 95/235, 423/228 [IMAGE AVAILABLE]

US PAT NO: 5,277,884 [IMAGE AVAILABLE] L13: 62 of 101

ABSTRACT
A novel class of solvents is described that have improved selectivity for H sub 2 S as compared to CO sub 2. The solvents are based on adding suitable second partially miscible solvent to known solvents. In specific, it is shown that adding 20% of dodecane to NMP (normal methyl pyrolidinone) increases the selectivity of the solvent for H sub 2 S as compared to CO sub 2 by 50%. This leads to important process improvements and reduction in the cost of the removal process.

63. 5,272,079, Dec. 21, 1993, **Purification** and administration of **DNA** repair enzymes, Daniel B. Yarosh, 435/193; 424/94.5, 94.6, 450, 435/196 [IMAGE AVAILABLE]

US PAT NO: 5,272,079 [IMAGE AVAILABLE] L13: 63 of 101

ABSTRACT:
Methods for purifying DNA repair enzymes are provided in which an aqueous solution of a DNA repair enzyme in an impure state is applied to a molecular sieve column having an exclusion limit which will retard the DNA repair enzyme but will not retard contaminants larger than the DNA repair enzyme. The DNA repair enzyme in an enhanced state of purity is eluted isocratically from the molecular sieve column in an elution buffer and applied directly to a DNA affinity column in the same buffer without intermediate dialysis, ultrafiltration, or other procedures. The DNA repair enzyme is eluted from the DNA affinity column using, for example, a salt gradient. The method is rapid, inexpensive, simple to perform, and has been found to produce a homogeneous final product. In accordance with other aspects of the invention, the purified DNA repair enzymes are encapsulated in liposomes and administered to living cells in situ. This form of administration has been found to be non-toxic to the cells and to result in increased incision of damaged DNA, enhanced DNA repair synthesis, and increased cell survival after exposure to ultraviolet light. In certain preferred embodiments, DNA repair enzymes are administered in pH sensitive liposomes.
REL-US-DATA: Continuation of Ser. No. 623,888, Dec. 26, 1990, which is a continuation-in-part of Ser. No. 215,566, Jul. 6, 1988, Pat. No. 5,077,211.

64. 5,206,178, Apr. 27, 1993, Membrane affinity concentration immunoassay; Nobuo Monji, et al., 436/518; 435/5, 7.1, 7.92, 7.93, 7.94, 7.95, 180, 971; 436/539, 810 [IMAGE AVAILABLE]

US PAT NO: 5,206,178 [IMAGE AVAILABLE] L13: 64 of 101

ABSTRACT
Methods for determining the presence and/or concentration of an analyte in a biological fluid sample are disclosed. The methods generally include admixing in solution certain polymer/reactant and reporter/reactant conjugates along with the biological fluid sample suspected of containing the analyte, thereby forming ternary complexes. The separation of the complexes from the reaction mixture is achieved through the affinity of certain selected polymer compositions for various solid phases. Upon separation, the amount of reporter activity in the solution may be measured, and therefrom the presence and/or concentration of the analyte determined. Multiple analyses on a biological fluid sample suspected of containing one or more analytes may also be performed, using either a variety of different reporters or selected polymers having varied affinity for the solid phase.
REL-US-DATA: Continuation of Ser. No. 108,451, Oct. 20, 1987, abandoned, which is a continuation-in-part of Ser. No. 932,656, Nov. 19, 1986, abandoned.

65. 5,206,136, Apr. 27, 1993, Rapid membrane affinity concentration assays, Nobuo Monji, et al., 435/5, 7.1, 7.5, 7.92, 7.93, 7.94, 7.95, 180, 803, 971, 974; 436/501, 539, 810 [IMAGE AVAILABLE]

US PAT NO: 5,206,136 [IMAGE AVAILABLE] L13: 65 of 101

ABSTRACT
Rapid assays for analytes of interest in a fluid sample utilize a first conjugate of a labelled reactant that specifically binds to the analyte, and a second conjugate that binds to the analyte coupled to a polymer that has an affinity for a selected solid phase. The reaction components are incubated briefly, then contacted with the selected solid phase and the labelled components determined. Optional wash steps provide for enhanced sensitivity and specificity. When the analyte of interest is an antibody to HIV, the first reactant may be a synthetic, recombinant or native HIV antigen, and the second reactant may be protein A or an anti-immunoglobulin.
REL-US-DATA: Continuation of Ser. No. 590,886, Oct. 1, 1990, which is a continuation-in-part of Ser. No. 108,451, Oct. 20, 1987, which is a continuation-in-part of Ser. No. 932,656, Nov. 19, 1986, abandoned.

66. 5,198,346, Mar. 30, 1993, Generation and selection of novel DNA-binding proteins and polypeptides; Robert C. Ladner, et al., 435/69.1, 252.3, 320.1, 489 [IMAGE AVAILABLE]

US PAT NO: 5,198,346 [IMAGE AVAILABLE] L13: 66 of 101

ABSTRACT:
Novel DNA-binding proteins, especially repressors of gene expression, are obtained by variegation of genes encoding known binding proteins and selection for proteins binding the desired target DNA sequence. A novel selection vector may be used to reduce artifacts. Heterooligomeric proteins which bind to a target DNA sequence which need not be palindromic are obtained by a variety of methods, e.g., variegation to obtain proteins binding symmetrized forms of the half-targets and heterodimerization to obtain a protein binding the entire asymmetric target.
REL-US-DATA: Continuation-in-part of Ser. No. 293,980, Jan. 6, 1989, Pat. No. 5,096,815.

67. 5,190,762, Mar. 2, 1993, Method of administering proteins to living skin cells, Daniel B. Yarosh, 424/450, 94.5; 435/193 [IMAGE AVAILABLE]

US PAT NO: 5,190,762 [IMAGE AVAILABLE] L13: 67 of 101

ABSTRACT:
A method for administering a protein having intracellular biological activity into the interior of living skin cells, which lie below the skin's stratum corneum, is provided. The method comprises the steps of: (a) encapsulating the protein in liposomes; and (b) applying the liposomes to the outer surface of living skin so that the protein encapsulated in the liposomes traverses the skin's stratum corneum and the outer membranes of said cells and is thereby delivered by the liposomes into the interior of said cells. In certain preferred embodiments, the liposomes are pH sensitive liposomes. In other preferred embodiments, the protein is a DNA repair enzyme, such as T4 endonuclease V.
REL-US-DATA: Continuation-in-part of Ser. No. 623,888, Dec. 26, 1990, which is a continuation-in-part of Ser. No. 215,566, Jul. 6, 1988, Pat. No. 5,077,211.

68. 5,183,752, Feb. 2, 1993, Heat-labile phosphatase; John P. Markwell, et al., 435/196, 91.53, 917 [IMAGE AVAILABLE]

US PAT NO: 5,183,752 [IMAGE AVAILABLE] L13: 68 of 101

ABSTRACT:
The present invention relates to the preparation of a novel heat-labile phosphatase enzyme from the filamentous fungus Aspergillus niger. This A Niger phosphatase enzyme has a native molecular weight of approximately 80,000 daltons, and is shown by polyacrylamide gel electrophoresis under denaturing conditions to be an alpha-2 dimer consisting of identical subunits of molecular weight of approximately 37,000 daltons each. The native intact enzyme molecule has an isoelectric point (pI) of 4.6, and exhibits optimal functional activity under reaction conditions of neutral to slightly alkaline pH conditions (about pH 7.0 to about pH 8.5). This enzyme has two characteristics which make it valuable in molecular biology laboratory protocols. First, the enzyme is readily inactivated by mild heating conditions (50.degree. C.); and second, the enzyme is highly specific for DNA as a substrate for the hydrolysis reaction; it does not hydrolyze adenosine triphosphate (ATP). This unique characteristic permits the simultaneous dephosphorylation and labeled rephosphorylation of DNA in the presence of polynucleotide kinase and labeled ATP, and eliminates the requirement for a multiplicity of steps in this DNA end-labeling process.

69. 5,173,551, Dec. 22, 1992, Free-radical retrograde precipitation-polymerization process; Gerard T. Caneba, 526/208, 77, 209.

218.1, 219, 219.6, 227, 328, 329.2, 329.7, 346, 347, 912 [IMAGE AVAILABLE]

US PAT NO: 5,173,551 [IMAGE AVAILABLE] L13: 69 of 101

ABSTRACT:
A free-radical retrograde polymerization process for forming a polymer. An admixture of reactants including predetermined amounts of a monomer, a solvent, and a free-radical-initiator is reacted. A precipitation polymerization reaction occurs such that a polymer-rich phase is at a temperature generally above the lower critical solution temperature (**LCST**) of the admixture.

70. 5,139,637, Aug. 18, 1992, Plasmid purification system and method; William P. MacConnell, 204/466, 616 [IMAGE AVAILABLE]

US PAT NO: 5,139,637 [IMAGE AVAILABLE] L13: 70 of 101

ABSTRACT:
An apparatus for the **purification** of **DNA** and the like comprises a housing having walls forming a reservoir having a plurality of chambers for containing a buffer solution means for circulating a buffer through the reservoir, a disposable cassette within said housing having first means including a gel for defining a first path extending between a first pair of the chambers, a well for introducing a bacterial sample into the path at one end thereof, and a second path intersecting the first path via an elution window at one end, having a collection window at the other end and extending between a second pair of the chambers, and an electrical circuit for selectively applying an electrical potential along each of the paths for selectively moving a plasmid first along the first path from the bacterial well to the elution window, then along the second path to the collection window at the end thereof.

71. 5,128,129, Jul. 7, 1992, Infectious bovine rhinotrachetis virus mutants, vaccines containing same, methods for the production of same and methods for the use of same; Malon Kit, et al., 424/205.1, 229.1, 813, 822, 435/235.1, 320.1, 536/23.72 [IMAGE AVAILABLE]

US PAT NO: 5,128,129 [IMAGE AVAILABLE] L13: 71 of 101

ABSTRACT:
Infectious bovine rhinotracheitis virus (bovine herpesvirus type 1) mutants containing deletion and/or insertion mutations in a major viral glycoprotein gene, such that no antigenic polypeptides encoded by the viral gene are produced, vaccines for infectious bovine rhinotracheitis containing the same, methods for the production of the same and methods for use of the same. Animals vaccinated with these mutants do not develop antibodies to the viral glycoprotein and can be distinguished serologically from animals infected with infectious bovine rhinotracheitis virus field strains.
REL-US-DATA: Division of Ser. No. 116,197, Nov. 3, 1987, Pat. No. 4,992,051.

72. 5,122,600, Jun. 16, 1992, DNA-immobilized microspheres and a process for purifying a DNA-transcription-controlling factor using the same; Haruma Kawaguchi, et al., 536/23.1; 435/6; 530/358 [IMAGE AVAILABLE]

US PAT NO: 5,122,600 [IMAGE AVAILABLE] L13: 72 of 101

ABSTRACT:
There are disclosed a DNA-immobilized microsphere comprising DNA chains having base sequences which bind a specific protein specifically, and a carrier having a particle size of not more than 50 .mu.m and not less than 0.01 .mu.m which does not adsorb any protein, said carrier and said DNA chains being bound to each other by a chemical bond, and a process for purifying a protein using said microsphere.

73. 5,118,668, Jun. 2, 1992, Variants of bovine pancreatic trypsin inhibitor and pharmaceutical use thereof; Ernst-August Auerswald, et al., 514/12; 435/69.2; 530/324 [IMAGE AVAILABLE]

US PAT NO: 5,118,668 [IMAGE AVAILABLE] L13: 73 of 101

ABSTRACT:
Peptides having essentially the sequence of bovine pancreatic trypsin inhibitor (aprotinin) wherein one or more of the amino acids at positions 15, 16, 17, 18, 34, 39 and 52 are replaced by any naturally occurring amino acid produced by recombinant DNA technology, process, expression vector and recominant host therefor and pharmaceutical use thereof. Such peptides being useful as therapeutic agents in diseases connected with the presence of excessive amounts of proteinases.

74. 5,112,749, May 12, 1992, Vaccines for the malaria circumsporozoite protein; Robert N. Brey, III, et al., 435/69.3, 69.1, 252.3, 320.1, 879; 530/350; 536/23.4, 23.7, 24.1 [IMAGE AVAILABLE]

US PAT NO: 5,112,749 [IMAGE AVAILABLE] L13: 74 of 101

ABSTRACT:
The present invention is directed to attenuated strains of enteroinvasive bacteria that express a peptide or protein related to an epitope of the malaria parasites of the genus Plasmodium. The bacterial strains of the invention which can multiply in a host without causing significant disease or disorder, and which express a Plasmodium-related peptide that induces a protective immune response against malaria, can be used in live vaccine formulations for malaria. In specific embodiments, a Plasmodium-related peptide can be expressed as a fusion protein, for example, with a bacterial enterotoxin.
The invention also relates to methods for expression of malaria antigens or fragments thereof within attenuated enteroinvasive bacteria.
In particular embodiments, the invention is directed to the expression by attenuated Salmonella spp. of epitopes of Plasmodium circumsporozoite proteins.

75. 5,096,815, Mar. 17, 1992, Generation and selection of novel DNA-binding proteins and polypeptides; Robert C. Ladner, et al., 435/69.1, 252.3, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,096,815 [IMAGE AVAILABLE] L13: 75 of 101

ABSTRACT:
Novel DNA-binding proteins, especially repressors of gene expression, are obtained by variegation of genes encoding known binding protein and selection for proteins binding the desired target DNA sequence. A novel selection vector is used to reduce artifacts. Heterooligimeric proteins which bind to a target DNA sequence which need not be palindromic are obtained by a variety of methods, e.g., variegation to obtain proteins binding symmetrized forms of the half-targets and heterodimerization to obtain a protein binding the entire asymmetric target.

76. 5,077,211, Dec. 31, 1991, **Purification** and administration of **DNA** repair enzymes; Daniel B. Yarosh, 435/193; 424/94.5, 94.6, 450; 435/196, 199 [IMAGE AVAILABLE]

US PAT NO: 5,077,211 [IMAGE AVAILABLE] L13: 76 of 101

ABSTRACT:
Methods for purifying DNA repair enzymes are provided in which an aqueous solution of a DNA repair enzyme in an impure state is applied to a molecular sieve column having an exclusion limit which will retard the DNA repair enzyme but will not retard contaminants larger than the DNA repair enzyme. The DNA repair enzyme in an enhanced state of purity is eluted isocratically from the molecular sieve column in an elution buffer and applied directly to a DNA affinity column in the same buffer without intermediate dialysis, ultrafiltration, or other procedures. The DNA repair enzyme is eluted from the DNA affinity column using, for example, a salt gradient. The method is rapid, inexpensive, simple to perform, and has been found to produce a homogeneous final product. In accordance with other aspects of the invention, the purified DNA repair enzymes are encapsulated in liposomes and administered to living cells in situ. This form of administration has been found to be non-toxic to the cells and to result in increased incision of damaged DNA, enhanced DNA repair synthesis, and increased cell survival after exposure to ultraviolet light.

77. 5,057,426, Oct. 15, 1991, Method for separating long-chain nucleic acids; Karsten Henco, et al., 435/270; 536/25.4, 25.41 [IMAGE AVAILABLE]

US PAT NO: 5,057,426 [IMAGE AVAILABLE] L13: 77 of 101

ABSTRACT:
A method for the separation of long-chain nucleic acids from other substances in solutions containing nucleic acids and other materials, comprising fixing long-chain nucleic acids in a nucleic acid-containing solution onto a porous matrix, washing the porous matrix to separate the other substances from the long-chain nucleic acids, and removing the fixed long-chain nucleic acids from the porous matrix is disclosed. A device for carrying out the method of the claimed invention is also

described

78. 5,032,573, Jul. 16, 1991, Homologs of aprotinin produced from a recombinant host, process, expression vector and recombinant host therefor and pharmaceutical use thereof, Ernst-August Auerswald, et al., 514/12, 21, 530/324 [IMAGE AVAILABLE]

US PAT NO: 5,032,573 [IMAGE AVAILABLE] L13: 78 of 101

ABSTRACT
Microbially produced aprotinin and aprotinin homologs used for treating patients suffering from an excess release of pancreatic elastase, serum elastase or leukocyte elastase.
REL-US-DATA: Division of Ser. No. 29,501, Mar. 23, 1987.

79. 4,992,051, Feb. 12, 1991, Infectious bovine rhinotracheitis virus mutants, methods for the production of same and methods for the use of same; Malon Kit, et al., 435/235.1, 320.1 [IMAGE AVAILABLE]

US PAT NO: 4,992,051 [IMAGE AVAILABLE] L13: 79 of 101

ABSTRACT:
Infectious bovine rhinotracheitis virus (bovine herpesvirus type 1) mutants containing deletion and/or insertion mutations in a major viral glycoprotein gene, such that no antigenic polypeptides encoded by the viral gene are produced, vaccines for infectious bovine rhinotrachetis containing the same, methods for the production of the same and methods for use of the same. Animals vaccinated with these mutants do not develop antibodies to the viral glycoprotein and can be distinguished serologically from animals infected with infectious bovine rhinotracheitis virus field strains.

80. 4,962,045, Oct. 9, 1990, Time-resolved fluorimetric detection of lanthanide labeled nucleotides, Enrico G. Picozza, et al., 436/501, 56, 94, 536, 546, 800 [IMAGE AVAILABLE]

US PAT NO: 4,962,045 [IMAGE AVAILABLE] L13: 80 of 101

ABSTRACT:
Nucleotides conjugated with a chelating agent and labeled with a lanthanide, especially terbium, are readily detected by time-resolved fluorimetry during and following gel electrophoresis. The labeled nucleotide conjugates are very stable, highly fluorescent with a long radiative lifetime and remain fluorescent during dilution and during gel electrophoresis and since an enhancement solution is not required for detection, the labeled nucleotide conjugates can be detected on-line, if desired.

81. 4,954,260, Sep. 4, 1990, Countercurrent separation process and apparatus, Zvi Ludmer, et al., 210/634, 511; 422/260 [IMAGE AVAILABLE]

US PAT NO: 4,954,260 [IMAGE AVAILABLE] L13: 81 of 101

ABSTRACT:
A multistage countercurrent separation apparatus and method is described. Each stage includes a mixer zone and a settler zone, both of which have temperature control means to achieve a first temperature and a second temperature, respectively, in the mixer and settler zones. Solvents used in the process are selected so that they have at least one immiscibility transition temperature such that they form a single homogeneous phase at said first temperature and two heterogeneous phases at said second temperature. By carrying out the process, a solute or solutes introduced into the system may appropriately be efficiently concentrated or separated with minimal agitation. Furthermore, because emulsification by rapid agitation is avoided, the homogeneous phase quickly coalesces upon passing into the heterogeneous phase, thereby increasing the throughput which may be achieved by the extraction process.

82. 4,946,940, Aug. 7, 1990, Phase separation processes; Terry L. Guckes, et al., 528/483; 208/311, 319; 528/490, 491, 498 [IMAGE AVAILABLE]

US PAT NO: 4,946,940 [IMAGE AVAILABLE] L13: 82 of 101

ABSTRACT:
A separation process has been found in which a polymer-solvent solution separates into phases of highly different composition which are in equilibrium over a broad temperature range. Upon addition of the phase separating agent, which is near or above its supercritical conditions, rapid disengagement into two phases occurs. The relative volume of solvent rich phase is substantially larger than the polymer rich phase. The process can be practiced at relatively low temperatures such as those employed in polymerization or post-polymerization processes. The separation is accomplished by adding or elevating the concentration of a phase separation agent to or above a minimum effective concentration, which causes the UCST and **LCST** lines to merge. Suitable phase separating agents are organic and inorganic compounds that are gases at 1 atm pressure and 25 degree. C. Due to the gaseous nature of the phase separating agent, it is easily removed from the solvent phase for reuse in the process.
REL-US-DATA: Continuation of Ser. No. 903,262, Sep. 3, 1986, abandoned, which is a continuation of Ser. No. 685,313, Dec. 24, 1984, abandoned, which is a continuation of Ser. No. 565,162, Dec. 23, 1983, abandoned.

83. 4,912,032, Mar. 27, 1990, Methods for selectively reacting ligands immobilized within a temperature-sensitive polymer gel; Allan S. Hoffman, et al., 435/7.1, 6, 7.8; 436/518, 519, 539, 540, 824 [IMAGE AVAILABLE]

US PAT NO: 4,912,032 [IMAGE AVAILABLE] L13: 83 of 101

ABSTRACT:
Methods for delivering substances into, removing substances from, or reacting substances with a selected environment utilizing polymer gels or coatings characterized by a critical solution temperature (CST) are disclosed. The CST as well as the pore structure, pore size, pore distribution, and absorbing capacity of the gel may be selectively controlled. The substances may be physically or chemically immobilized within the polymer gels. In addition, a method for altering the surface wettability of CST polymers is also disclosed.
REL-US-DATA: Continuation-in-part of Ser. No. 853,697, Apr. 17, 1986, abandoned, and a continuation-in-part of Ser. No. 854,831, Apr. 28, 1986, Pat. No. 4,780,409, which is a continuation-in-part of Ser. No. 729,510, May 2, 1985, abandoned.

84. 4,894,436, Jan. 16, 1990, Homologs of aprotinin produced from a recombinant host, process expression vector and recombinant host therefor and pharaceutical use thereof, Ernst-August Auerswald, et al., 530/324 [IMAGE AVAILABLE]

US PAT NO: 4,894,436 [IMAGE AVAILABLE] L13: 84 of 101

ABSTRACT:
Microbially produced aprotinin and aprotinin homologs used for treating patients suffering from an excess release of pancreatic elastase, serum elastase or leukocyte elastase.

85. 4,894,362, Jan. 16, 1990, Eel growth hormone; Kazuo Yamaguchi, et al., 514/12, 2, 21; 530/324, 399 [IMAGE AVAILABLE]

US PAT NO: 4,894,362 [IMAGE AVAILABLE] L13: 85 of 101

ABSTRACT:
According to the present invention, a fish growth hormone was isolated from an organ culture broth of the pituitary gland of eels, and further a recombinant DNA incorporated with a DNA coding for the eel growth hormone polypeptide and a microorganism containing the recombinant DNA were obtained. They can be used for mass production of an eel growth hormone.

86. 4,880,915, Nov. 14, 1989, Method for purifying a physiologically active substance produced by recombinant DNA technique; Junichi Kajihara, et al., 530/413; 435/69.5; 530/350, 351, 415, 416, 828 [IMAGE AVAILABLE]

US PAT NO: 4,880,915 [IMAGE AVAILABLE] L13: 86 of 101

ABSTRACT:
An aqueous solution containing a physiologically active substance, which is produced by recombinant DNA technique and which has cytotoxic activity against L-M cells and is capable of inducing hemorrhagic necrosis of transplanted Meth A sarcoma in the BALB/c mouse, can be effectively, efficiently purified by column chromatography using a column packed with a dye-bonded crosslinked agarose gel.

87. 4,879,226, Nov. 7, 1989, Novel human physiologically active polypeptide, Robert B. Wallace, et al., 435/68.1, 252.33, 254.2, 320.1, 354, 365.1, 480, 948; 514/2, 12, 21; 530/350, 351, 828; 536/23.2, 23.5 [IMAGE AVAILABLE]

US PAT NO: 4,879,226 [IMAGE AVAILABLE] L13: 87 of 101

ABSTRACT:
A human physiologically active polypeptide, human Tumor Necrosis Factor (human TNF), comprising a specific amino acid sequence of 155 amino acid residues. The base sequence of the DNA coding for the human TNF has been determined using rabbit TNF cDNA. The human TNF can be advantageously produced on a large scale by recombinant DNA technique. The human TNF of the present invention has been found to be excellent in inducing necrosis of tumors with no toxic effect upon the normal tissues of the living body.

88. 4,870,023, Sep. 26, 1989, Recombinant baculovirus occlusion bodies in vaccines and biological insecticides; Malcolm J. Fraser, et al., 435/235.1, 69.3, 69.7, 243, 320.1; 530/350, 820, 826; 536/23.1, 23.4; 930/10, 220 [IMAGE AVAILABLE]

US PAT NO: 4,870,023 [IMAGE AVAILABLE] L13: 88 of 101

ABSTRACT
The present invention is directed to recombinant baculoviruses which encode fusion polyhedrin proteins capable of forming occlusion bodies containing foreign peptides. The recombinant baculoviruses of the invention are formed by insertion into or replacement of regions of the polyhedrin gene that are not essential for occlusion body formation, with foreign DNA fragments by recombinant DNA techniques. The recombinant occlusion bodies produced in accordance with the present invention have uses in vaccine formulations, immunoassays, immobilized enzyme reactions, as biological insecticides, and as expression vectors.
REL-US-DATA: Continuation-in-part of Ser. No. 26,498, Mar. 16, 1987, abandoned, which is a continuation-in-part of Ser. No. 26,499, Mar. 16, 1987.

89. 4,863,613, Sep. 5, 1989, Soy protein isolation process using swellable poly(N-isopropylacrylamide) gels; Dale W. Johnson, et al., 210/670, 689, 712, 772, 774, 806, 905; 530/378, 415 [IMAGE AVAILABLE]

US PAT NO: 4,863,613 [IMAGE AVAILABLE] L13: 89 of 101

ABSTRACT:
A method is provided for the **purification** and concentration of soy protein comprising mixing an aqueous solution including soy protein along with other water soluble moieties including sugars, salts, and phytins with a solid crosslinked polymer gel selected from the group consisting of N-substituted polyacrylamides and copolymers of N-substituted polyacrylamides; swelling the gel to absorb a portion of the water and other water soluble moieties including sugars, salts, and phytins from the aqueous solution by substantially maintaining the temperature of the gel at a preselected temperature below the lower critical solution temperature of the gel, to yield a concentrated soy protein solution; and separating the concentrated soy protein solution from the swollen gel. The concentrated soy protein solution may be repeatedly subjected to the gel treatment depending on the desired purity of the protein and the desired solids concentration.
REL-US-DATA: Continuation-in-part of Ser. No. 128,959, Dec. 8, 1987, which is a continuation of Ser. No. 791,522, Oct. 25, 1985, abandoned.

90. 4,780,409, Oct. 25, 1988, Thermally induced phase separation immunoassay; Nobuo Monji, et al., 435/7.36, 5, 7.32, 7.8, 7.94, 971, 973; 436/519, 539, 540, 824, 827 [IMAGE AVAILABLE]

US PAT NO: 4,780,409 [IMAGE AVAILABLE] L13: 90 of 101

ABSTRACT:
An immunoassay in which a thermally induced phase separation is used to effect the separation of specifically bound reactants from free reactants is disclosed. A first reactant is conjugated to a temperature-sensitive polymer to form a polymer/reactant conjugate, and a second reactant is conjugated to a reporter to form a reporter/reactant conjugate. The polymer/reactant, reporter/reactant, and biological fluid samples suspected of containing the analyte are admixed in solution at a temperature other than that at which the polymer will precipitate. Specific binding is allowed to occur, thereby forming a ternary complex. The salt concentration of the adjusted solution is then adjusted to a concentration sufficient to cause the complex to precipitate from the solution, the amount of reporter activity in the precipitated complex or in the solution measured and the presence and/or concentration of the analyte therefrom determined. Alternatively, the first reactant may be conjugated to a monomer and subsequently copolymerized with additional monomers to yield a temperature-sensitive copolymer. Multiple analyses may also be performed on a single sample by choosing a variety of polymers, each polymer having a different specific binding partner conjugated thereto and a different critical solution temperature. By altering the temperature and/or the salt concentration of the solution incrementally, the reporter associated with each of the complexes precipitated with each temperature or concentration increment may be measured, and the presence and/or concentration of each of the analytes determined.
REL-US-DATA: Continuation-in-part of Ser. No. 729,510, May 2, 1985, abandoned.

91. 4,775,745, Oct. 4, 1988, Diazonium compounds useful as components for nucleic acid probes; John P. Ford, et al., 534/560; 436/63, 501, 532, 544, 546, 804, 828; 514/150; 534/558, 562, 563, 564, 565; 546/146, 262, 548/304.1, 478, 492 [IMAGE AVAILABLE]

US PAT NO: 4,775,745 [IMAGE AVAILABLE] L13: 91 of 101

ABSTRACT:
This invention relates to a diazonium compound of the formula: ##STR1## wherein Z is selected from the group consisting of biotin, an antigen, an antibody, a photoreactive group, a fluorescent group and heavy metal-containing compounds;
X is an alkylene group containing up to 18 carbon atoms in the principle chain and a total of up to 24 carbon atoms or a substituted alkylene group containing up to 18 carbon atoms in the principle chain with substituents selected from the group consisting of solubility-enhancing groups and cleavable --S--S-- containing moieties;
Ar is an unsubstituted or substituted aryl or heteroaryl; and
Y is an anion and n is an integer from 1-3.
Such compounds are useful as components for nucleic acid probes.

92. 4,753,884, Jun. 28, 1988, Pseudorabies virus mutants, vaccines containing same, methods for the production of same and methods for the use of same; Malon Kit, et al., 424/205.1, 229.1, 815, 822; 435/236, 320.1; 536/23.1 [IMAGE AVAILABLE]

US PAT NO: 4,753,884 [IMAGE AVAILABLE] L13: 92 of 101

ABSTRACT:
The present invention relates to pseudorabies virus mutants containing deletion and/or insertion mutations in a major viral glycoprotein gene, such that no antigenic polypeptides encoded by the viral gene are produced. As a result, animals vaccinated with such do not develop antibodies to the viral glycoprotein and can be distinguished from animals infected with pseudorabies virus field strains and known pseudorabies virus vaccine strains. The present invention also relates to vaccines for pseudorabies disease containing the same, methods for production of the same and methods for use of the same.
REL-US-DATA: Division of Ser. No. 823,439, Jan. 28, 1986.

93. 4,711,850, Dec. 8, 1987, Pseudorabies virus mutants, vaccines containing same, methods for the production of same and methods for the use of same; Malon Kit, et al., 435/235.1; 424/205.1, 229.1; 435/236; 536/23.1 [IMAGE AVAILABLE]

US PAT NO: 4,711,850 [IMAGE AVAILABLE] L13: 93 of 101

ABSTRACT:
The present invention relates to pseudorabies virus mutants containing deletion and/or insertion mutations in a major viral glycoprotein gene, such that no antigenic polypeptides encoded by the viral gene are produced. As a result, animals vaccinated with such do not develop antibodies to the viral glycoprotein and can be distinguished from animals infected with pseudorabies virus field strains and known pseudorabies virus vaccine strains. The present invention also relates to vaccines for pseudorabies disease containing the same, methods for production of the same and methods for use of the same.

94. 4,703,011, Oct. 27, 1987, Thymidine kinase deletion mutants of bovine herpesvirus-1; Malon Kit, et al., 435/236; 424/205.1, 229.1, 813, 822; 930/224, 240 [IMAGE AVAILABLE]

US PAT NO: 4,703,011 [IMAGE AVAILABLE] L13: 94 of 101

ABSTRACT:

Bovine herpesvirus type 1 (infectious bovine rhinotracheitis virus) mutants which fail to produce any functional thymidine kinase as a result of a deletion in the thymidine kinase gene. The deletion in the thymidine kinase gene attenuates the viruses so that they can be used as an active agent in a modified live-virus vaccine against infectious bovine rhinotracheitis. This invention also relates to methods for the production and use of the same.

95. 4,659,669, Apr. 21, 1987, Microbial expression of human influenza hemagglutinin proteins; Dennis G. Kleid, et al., 435/252.33, 69.3, 69.4, 91.41, 243, 252.3, 320.1; 536/23.2, 23.72 [IMAGE AVAILABLE]

US PAT NO: 4,659,669 [IMAGE AVAILABLE] L13: 95 of 101

ABSTRACT
Disclosed herein are methods and means for microbially expressing human influenza hemagglutinin proteins, useful in the preparation of vaccines, by recombination of DNA gene sequences coding for hemagglutinin protein with microbially operable promoter-operator DNA and transformation of microbial host therewith.

96. 4,649,111, Mar. 10, 1987, Process for the preparation of 5'-ribonucleotides; Reinhold Keller, et al., 435/89, 177, 180 [IMAGE AVAILABLE]

US PAT NO: 4,649,111 [IMAGE AVAILABLE] L13: 96 of 101

ABSTRACT
Ribonucleic acid in a mixture of crude nucleic acids is selectively hydrolyzed with 5'-phosphodiesterase to 5'-ribonucleotides without hydrolyzing desoxyribonucleic acid in the mixture. Selective hydrolysis is carrying out by contacting the crude nucleic acid mixture with 5'-phosphodiesterase immobilized on a polymer carrier. The crude mixture of nucleic acids is preferably obtained by aqueous extraction of microorganisms that have previously been extracted with ammonia and a lower alcohol to remove lipids. The polymer carrier is preferably a copolymer of glycidylmethacrylate, allylglycidylether, methacrylamide and methylene-bis-methacrylamide.
REL-US-DATA: Continuation of Ser. No. 418,397, Sep. 15, 1982, abandoned.

97. 4,609,548, Sep. 2, 1986, Vaccines for pseudorabies disease and methods for use of same; Malon Kit, et al., 424/205.1, 229.1, 822; 435/235.1, 236 [IMAGE AVAILABLE]

US PAT NO: 4,609,548 [IMAGE AVAILABLE] L13: 97 of 101

ABSTRACT:
Temperature-resistant pseudorabies viruses which fail to produce any functional TK as a result of mutagen-induced mutation and temperature-resistant pseudorabies viruses which fail to produce any functional TK as a result of a deletion in the tk gene, vaccines containing same, methods for production of same and methods for use of same.
REL-US-DATA: Division of Ser. No. 567,018, Dec. 30, 1983, Pat. No 4,514,497.

98. 4,514,497, Apr. 30, 1985, Modified live pseudorabies viruses; Malon Kit, et al., 435/235.1; 424/205.1, 229.1, 822; 435/236; 536/23.72 [IMAGE AVAILABLE]

US PAT NO: 4,514,497 [IMAGE AVAILABLE] L13: 98 of 101

ABSTRACT
Temperature-resistant pseudorabies viruses which fail to produce any functional TK as a result of mutagen-induced mutation and temperature-resistant pseudorabies viruses which fail to produce any functional TK as a result of a deletion in the tk gene, vaccines containing same, methods for production of same and methods for use of same

99. 4,503,147, Mar. 5, 1985, Monomethylamine-oxidizing enzyme; Motoo Nakajima, et al., 435/25, 191, 829, 832 [IMAGE AVAILABLE]

US PAT NO: 4,503,147 [IMAGE AVAILABLE] L13: 99 of 101

ABSTRACT
A monomethylamine-oxidizing enzyme can be obtained by cultivating in a medium a strain which belongs to Genus Bacillus and has an ability to produce a monomethylamine-oxidizing enzyme. This enzyme exhibits several beneficial properties including the ability to oxidatively deaminate the amino group of monomethylamine to produce formaldehyde, ammonia, and hydrogen peroxide. The enzyme exhibits a high substrate specificity for monomethylamine, ethylamine, and n-proplyamine while showing no substrate specificity for benzylamine, dimethylamine, trimethylamine, ethylenediamine and tryamine. In addition, the enzyme is stable through an elevated temperature range permitting faster reaction rates and therefore a shorter overall quantitative evaluation. Another property includes a low Km value which allows smaller quantities of the enzyme to be employed per sample.

100. 4,396,600, Aug. 2, 1983, Adult schistosome worm-derived antigenic substance and method of obtaining same; Luigi Messineo, et al., 424/266.1, 265.1; 436/515; 530/350, 417, 806, 855 [IMAGE AVAILABLE]

US PAT NO: 4,396,600 [IMAGE AVAILABLE] L13: 100 of 101

ABSTRACT:
An extract of adult Schistosome mansoni worms, obtained by incubation in 0.15 M sodium chloride-sodium phosphate buffer (pH 6.8), contains protein, carbohydrates, and nucleic acid and/or by-products of the latter component and resolves into four major fractions by gel chromatography in G-100 and G-200 Sephadex columns. Immunodiffusion tests with rabbit anti-total extract serum reveal three precipitation lines corresponding to fractions I and II, and one with III or IV. Rabbits immunized with this total extract are found to be totally or partially (at least 77%) resistant to a challenge infection. The saline extract antigenic material is an effective vaccine for the treatment and immunization of schistosomiasis and other schistosome infections.

101. 3,932,371, Jan. 13, 1976, Process for preparing low bulk viscosity polymers; Kenneth W. Powers, 526/70, 86, 189, 206, 236, 339 [IMAGE AVAILABLE]

US PAT NO: 3,932,371 [IMAGE AVAILABLE] L13: 101 of 101

ABSTRACT:
Polymerization reactions may be carried out in a solvent at a temperature which is above its lower critical solution temperature thereby resulting in a two-phase system comprising a solvent phase containing dissolved therein monomers and low molecular weight fractions of polymer and dispersed fluid phase comprising a solution of solvent in the higher molecular weight fraction of polymer being formed.
This process technique is particularly advantageous in the preparation of low molecular weight isoolefin conjugated diolefin copolymers. In particular, propane has been found to be an ideal solvent for the isoolefin conjugated diolefin polymerization processes.
The use of this type of polymerization process results in a low viscosity system having excellent heat transfer and low fouling characteristics.
REL-US-DATA: Continuation-in-part of Ser. No. 22,813, Mar. 6, 1970, abandoned, which is a continuation-in-part of Ser. No. 550,649, May 17, 1966, abandoned.

=> d his

(FILE 'USPAT' ENTERED AT 15:55:48 ON 14 SEP 1998)
L1 31418 S ACRYLAMIDE
L2 190214 S ADSORPTION OR ABSORBTION OR ABSORPTION
L3 95879 S PURIFICATION
L4 9711 S L1 AND L2
L5 27807 S DNA OR NUCLEIC(W)ACID
L6 37 S L1(10W)L2
L7 1258 S L4 AND L5
L8 0 S L6 AND L5
L9 1165 S L3(5W)L5
L10 81 S L4 AND L9
L11 129 S LCST
L12 20 S L3 AND L11
L13 101 S L10 OR L12
L14 277 S L2(10W)L5
L15 356 S LL AND L5
L16 631 S L14 OR L15
L17 3474 S L1 AND L5
L18 3707 S L14 OR L17
L19 0 S L5(10W)L2(10W)L1
L20 327 S L5(10W)L2
L21 0 S L20(10W)L1

=> s l1(10w)polymer

224656 POLYMER
L22 2721 L1(10W)POLYMER

=> s l22(10w)l14

L23 0 L22(10W)L14

=> s l22(10w)l5

L24 0 L22(10W)L5

=> log y

U S Patent & Trademark Office LOGOFF AT 16:13:46 ON 14 SEP 1998

08/945 731
Att #21

=> s lcst
L1 1522 LCST

=> s acrylamid? or acrylic? or dimethacryl? or methacryl?
L2 593020 ACRYLAMID? OR ACRYLIC? OR DIMETHACRYL? OR METHACRYL?

=> s monomer
L3 306886 MONOMER

=> s cationic
L4 176367 CATIONIC

=> s critical solubility
L5 68 CRITICAL SOLUBILITY

=> s nipam
L6 310 NIPAM

=> s v50

L7 883 V50

<------User Break------>
u
SEARCH ENDED BY USER

=> s (nucleic acid) or dna or rna or plasmid or oligonucleotide
4 FILES SEARCHED...
L8 3376185 (NUCLEIC ACID) OR DNA OR RNA OR PLASMID OR OLIGONUCLEOTIDE

=> s l1 and l2
L9 610 L1 AND L2

=> s l1 and l8
L10 35 L1 AND L8

=> s l1 and l2 and l3
L11 85 L1 AND L2 AND L3

=> s l1 and l2 and l3 and l4
L12 7 L1 AND L2 AND L3 AND L4

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PROCESSING COMPLETED FOR L12
L13 5 DUP REM L12 (2 DUPLICATES REMOVED)

=> d l13 ibib abs 1-5

L13 ANSWER 1 OF 5 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-097380 [13] WPIDS
DOC. NO. NON-CPI: N2002-071991
DOC. NO. CPI: C2002-030240
TITLE: Hydrophilic modification of various substrates using treatment in aqueous medium containing water-soluble and heat-sensitive polymer, at temperature not lower than that of critical solubility temperature of polymer.
DERWENT CLASS: A14 A82 G02 P42
INVENTOR(S): TEMBOU, N D; TEMBOU N'ZUDIE, D
PATENT ASSIGNEE(S): (AQOR) ATOFINA
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001078907	A1	20011025	(200213)*	FR	76

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
FR 2807771 A1 20011019 (200213)
AU 2001048500 A 20011030 (200219)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001078907	A1	WO 2001-FR1075	20010409
FR 2807771	A1	FR 2000-4695	20000412
AU 2001048500	A	AU 2001-48500	20010409

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001048500	A Based on	WO 200178907

PRIORITY APPLN. INFO: FR 2000-4695 20000412
AN 2002-097380 [13] WPIDS
AB WO 200178907 A UPAB: 20020226
NOVELTY - A process of hydrophilic modification of substrate, comprising
treatment of this substrate in aqueous medium with modifying water-soluble
polymer or copolymer, having thermo-sensitive properties, in particular critical solubility temperature (***LCST***) between 3 and 100 deg. C, is new.
USE - As a method of hydrophilic modification of substrates selected from textiles, non-woven materials, metals, glass, wood, paper, leather, building materials, carpet, fibers, polymers and concrete.
Dwg.0/0

L13 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:730507 HCAPLUS
DOCUMENT NUMBER: 134:5200
TITLE: Poly(N-acryloyl-N'-propylpiperazine): A New Stimuli-Responsive Polymer
AUTHOR(S): Gan, L. H.; Gan, Y. Y.; Deen, G. Roshan
CORPORATE SOURCE: School of Science, Nanyang Technological University, Singapore, 259756, Singapore
SOURCE: Macromolecules (2000), 33(21), 7893-7897
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new water-sol. stimuli-responsive poly(N-acryloyl-N'-propylpiperazine)
(PAcrNPP) was synthesized and characterized. The polymer exhibited a lower crit. soln. temp. (***LCST***) in water at 37.degree.. The phase transition temp. was highly sensitive to pH changes. The effects of some simple salts and ***cationic*** surfactants were studied. The enthalpy of phase sepn. detd. by microcalorimetry was 21.4 kJ mol-1. This
value corresponds to the breaking of one hydrogen bond per ***monomer***
unit. Dynamic light scattering studies indicated some aggregations of polymer chains below the ***LCST*** . No such aggregations were obsd.
for the lower analogs, poly(N-acryloyl-N'-methylpiperazine) (PAcrNMP) and
poly(N-acryloyl-N'-ethylpiperazine) (PAcrNEP) which exhibited no ***LCST*** . The crosslinked polymer gels were sensitive to both pH and
temp. Their response time to swelling and deswelling was 150 min. The water sorption of the gels was non-Fickian under both acidic and neutral conditions.
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 5 WPIDS (C) 2002 THOMSON DERWENT
DUPLICATE 1
ACCESSION NUMBER: 1999-478841 [40] WPIDS
DOC. NO. NON-CPI: N1999-356503
DOC. NO. CPI: C1999-140848
TITLE: Particles having a magnetic composite core useful for

separating proteins and/or nucleic acids from biological fluids.
DERWENT CLASS: A14 A85 A96 B04 D16 J04 P41 S03 V02
INVENTOR(S): ELAISSARI, A; MANDRAND, B; PICHOT, C
PATENT ASSIGNEE(S): (INMR) BIO MERIEUX
COUNTRY COUNT: 85
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9935500	A1	19990715	(199940)*	FR	37

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD
GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
UA UG US UZ VN YU ZW
FR 2773416 A1 19990709 (199940)
AU 9919734 A 19990726 (199952)
EP 1046037 A1 20001025 (200055) FR
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2002501175 W 20020115 (200207) 44

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9935500	A1	WO 1999-FR11	19990106
FR 2773416	A1	FR 1998-220	19980106
AU 9919734	A	AU 1999-19734	19990106
EP 1046037	A1	EP 1999-900498	19990106
		WO 1999-FR11	19990106
JP 2002501175 W		WO 1999-FR11	19990106
		JP 2000-527831	19990106

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9919734	A Based on	WO 9935500
EP 1046037	A1 Based on	WO 9935500
JP 2002501175 W	Based on	WO 9935500

PRIORITY APPLN. INFO: FR 1998-220 19980106
AN 1999-478841 [40] WPIDS
AB WO 9935500 A UPAB: 19991004
NOVELTY - New magnetic and thermosensitive particles have a predetermined
size of 0.05 - 10 mu m comprising:
(a) an internal composite core of organic or inorganic solid containing a magnetic filler; and
(b) an intermediate layer which isolates the magnetic filler from the outer layer.
USE - The particles are useful for separating proteins and/or nucleic acids from biological fluids such as blood, cerebro-spinal fluid and urine.
ADVANTAGE - The particles give a much simpler method of concentrating
traces of nucleic acid or protein than is possible by other methods.
Dwg.0/7

L13 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:455177 HCAPLUS
DOCUMENT NUMBER: 131:244010
TITLE: Study of ***Cationic*** N-Isopropylacrylamide-Styrene Copolymer Latex Particles Using Fluorescent Probes
AUTHOR(S): Castanheira, E. M. S.; Martinho, J. M. G.; Duracher, D.; Charreyre, M. T.; Elaissari, A.; Pichot, C.
CORPORATE SOURCE: Centro de Quimica-Fisica Molecular, Instituto Superior
Tecnico, Lisbon, 1049-001, Port.
SOURCE: Langmuir (1999), 15(20), 6712-6717
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Monodisperse cationically charged core-shell styrene-N-isopropylacrylamide
copolymer latexes, differing in their shell structure, were studied at temps. around the lower crit. soln. temp. (***LCST***) of poly(N-isopropylacrylamide). Near the ***LCST*** , a transition on the
latex dimensions was obsd. by quasi-elastic light scattering measurements. The same transition could also be detected using the intensity ratio of the pyrene fluorescence vibronic bands, I1/I3, and the excimer to ***monomer*** fluorescence intensity ratio of 1,10-bis(1-pyrenyl)decane.
The fluorescence spectra and decay curve measurements of 1,10-bis(1-pyrenyl)decane provided a better understanding of both the hydrophilic-hydrophobic variation and the conformational changes occurring
in the poly(N-isopropylacrylamide) shell of the latex particles upon temp. variation.
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 5 OF 5 WPIDS (C) 2002 THOMSON DERWENT
DUPLICATE 2
ACCESSION NUMBER: 1997-480152 [44] WPIDS
DOC. NO. NON-CPI: N1997-400463
DOC. NO. CPI: C1997-152530
TITLE: Aqueous phase separation of nucleic acids - by adsorption on suspended particles of polymer with lower critical solubility temperature, under defined pH, temperature or ionic strength conditions.
DERWENT CLASS: A14 A96 B04 D16 E16 S03
INVENTOR(S): CROS, P; ELAISSARI, A; MABILAT, C; PICHOT, C; RODRIGUE,
M; SANTORO, L
PATENT ASSIGNEE(S): (INMR) BIO MERIEUX
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9734909	A1	19970925	(199744)*	FR	44

RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA JP US
EP 842184 A1 19980520 (199824) FR
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 11505426 W 19990521 (199931) 34

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9734909	A1	WO 1997-FR496	19970320
EP 842184	A1	EP 1997-915528	19970320
		WO 1997-FR496	19970320
JP 11505426	W	JP 1997-533211	19970320
		WO 1997-FR496	19970320

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 842184	A1 Based on	WO 9734909
JP 11505426	W Based on	WO 9734909

PRIORITY APPLN. INFO: FR 1996-4691 19960409; FR 1996-3753 19960320
AN 1997-480152 [44] WPIDS
AB WO 9734909 A UPAB: 19971113
Aqueous phase process for isolating nucleic acid (A) from a sample, including adsorption on a particulate suspension, comprises: (a) preparing an adsorption reagent (AR) comprising a sol of continuous aqueous phase and dispersed phase of support particles of polymer (I); (b) contacting AR with the sample and allowing adsorption to take place under conditions

including at least one of pH at most 7, ionic strength at most 0.01 M and temperature below the lower critical solubility temperature (***LCST***

) of (I); (c) separation of continuous and dispersed phases, and optionally (d) desorption of (A) from the particles by increasing the ionic strength above 0.01 M. (I) is produced by reacting a water-soluble ***monomer*** (***acrylamide*** or its derivative), a crosslinking agent and a second functionalised, ***cationic*** and water-soluble ***monomer*** such that (I) has ***LCST*** 25-45 deg. C.

USE - The method is used to isolate RNA or DNA of any origin, e.g. primers and probes, in a form suitable for enzymatic amplification.

ADVANTAGE - The method is selective for (I), with elimination of proteins and/or enzyme inhibitors, and can recover both RNA and DNA from the same sample.

Dwg.0/7

=> d his

(FILE 'HOME' ENTERED AT 16:53:57 ON 13 AUG 2002)

FILE 'BIOSIS, EMBASE, MEDLINE, WPIDS, HCAPLUS' ENTERED AT 16:54:10 ON 13 AUG 2002

L1 1522 S LCST
L2 593020 S ACRYLAMID? OR ACRYLIC? OR DIMETHACRYL? OR METHACRYL?
L3 306886 S MONOMER
L4 176367 S CATIONIC
L5 68 S CRITICAL SOLUBILITY
L6 310 S NIPAM
L7 883 S V50
L8 3376185 S (NUCLEIC ACID) OR DNA OR RNA OR PLASMID OR OLIGONUCLEOTIDE
L9 610 S L1 AND L2
L10 35 S L1 AND L8
L11 85 S L1 AND L2 AND L3
L12 7 S L1 AND L2 AND L3 AND L4
L13 5 DUP REM L12 (2 DUPLICATES REMOVED)

=> s l11 and py<1997
1 FILES SEARCHED...
3 FILES SEARCHED...
4 FILES SEARCHED...
L14 26 L11 AND PY<1997

=> s l10 and py<1997

1 FILES SEARCHED...
3 FILES SEARCHED...
4 FILES SEARCHED...
L15 6 L10 AND PY<1997

=> dup rem l14

PROCESSING COMPLETED FOR L14
L16 23 DUP REM L14 (3 DUPLICATES REMOVED)

=> dup rem l15

PROCESSING COMPLETED FOR L15
L17 4 DUP REM L15 (2 DUPLICATES REMOVED)

=> s l16 or l17
L18 26 L16 OR L17

=> s l2 and l3 and l4 and l8
L19 38 L2 AND L3 AND L4 AND L8

=> dup rem l19
PROCESSING COMPLETED FOR L19
L20 25 DUP REM L19 (13 DUPLICATES REMOVED)

=> s l20 and py<1997
1 FILES SEARCHED...
3 FILES SEARCHED...
4 FILES SEARCHED...
L21 4 L20 AND PY<1997

=> s l16 or l17 or l21

L22 30 L16 OR L17 OR L21

=> d l22 ibib abs 1-30

L22 ANSWER 1 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1994:271759 BIOSIS
DOCUMENT NUMBER: PREV199497284759
TITLE: Activated, N-substituted ***acrylamide*** polymers for antibody coupling: Application to a novel membrane-based immunoassay.
AUTHOR(S): Monji, Nobuo (1); Cole, Carol-Ann; Hoffman, Allan S.
CORPORATE SOURCE: (1) Genet. Systems Corp., 6565 185th Avenue NE, Redmond, WA 98052 USA
SOURCE: Journal of Biomaterials Science Polymer Edition, (1994) Vol. 5, No. 5, pp. 407-420. ISSN: 0920-5063.
DOCUMENT TYPE: Article
LANGUAGE: English
AB A room-temperature-precipitable, activated terpolymer consisting of N-isopropylacrylamide (NIPAAm)/N-n-butylacrylamide(nBAAm)/N-acryloxysuccinimide(NASI) (***LCST*** = 7-13 degree C) at a ***monomer*** feed ratio of 60:40:2.5, respectively, was prepared and conjugated to an antibody. The conjugate was evaluated in a novel cellulose acetate (CA) membrane-based immunoassay which utilizes the especially strong physical attachment of the polymer to CA to bind and concentrate the polymer attached protein onto the membrane. When compared in the CA membrane immunoassay to the antibody-poly(NIPAAm) conjugate prepared via anhydrous copolymerization of NIPAAm and NASI at the ***monomer*** feed ratio of 40: 1, respectively, the performance of the NIPAAm/nBAAm/NASI terpolymer was superior to that of the NIPAAm/NASI copolymer (***LCST*** = 32 degree C) when the studies were carried out at room temperature. However, the terpolymer and copolymer gave equivalent performance when the assay mixture was heated to 45 degree C. These results indicate the importance of the ***LCST*** of the polymer component of the Ab-polymer conjugate to its adsorption and binding on the CA membrane.

L22 ANSWER 2 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1991:177566 BIOSIS
DOCUMENT NUMBER: BA91:92315
TITLE: PREPARATION OF TEMPERATURE-SENSITIVE MEMBRANES BY GRAFT POLYMERIZATION ONTO A POROUS MEMBRANE.
AUTHOR(S): IWATA H; OODATE M; UYAMA Y; AMEMIYA H; IKADA Y
CORPORATE SOURCE: RES. INST., NATL. CARDIOVASCULAR CENT., 5-7-1 FUJISHIRO-DAI, SUITA, OSAKA 565, JAPAN.
SOURCE: J MEMBR SCI, (1991) 55 (1-2), 119-130. CODEN: JMESDO. ISSN: 0376-7388.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Temperature-sensitive membranes were prepared by grafting of poly(N-isopropylacrylamide) (polyIPAAm) and its copolymers onto a porous poly (vinylidene fluoride) membrane. PolyIPAAm is soluble in water but has a lower critical solution temperature (***LCST***) around 31-33.degree.C. The water filtration rate of the polyIPAAm grafted membrane varied more than 10-fold between temperatures above and below the ***LCST*** , reflecting the drastic configuration change of polyIPAAm. The temperature sensitivity was reversible and reproducible. It is likely

that the grafted chains acted as a sensor of the temperature and as a valve to regulate filtration characteristics. The temperature region where the filtration rate sharply changed could be shifted to higher or lower temperature by copolymerizing IPAAm with a hydrophilic ***monomer*** , such as ***acrylamide*** , or a hydrophobic ***monomer*** , such as n-butyl ***methacrylate*** , respectively. All of the temperature-sensitive membranes remained constant in size and could respond quickly to temperature changes.

L22 ANSWER 3 OF 30 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 95336823 EMBASE
DOCUMENT NUMBER: 1995336823
TITLE: Intelligent biomedical gels based on pendant L-proline alkyl esters.
AUTHOR: Yoshida M.; Safranj A.; Omichi H.; Katakai R.
CORPORATE SOURCE: Dept. of Material Development, Radiation Chem. Res.
Establishment, Japan Atomic Energy Research Inst., Watanuki-Machi 1233,Takasaki, Gunma 370-12, Japan
SOURCE: Radiation Physics and Chemistry, (1995) 46/4-6 II (1053-1056).
ISSN: 0969-806X CODEN: RPCHDM
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Conference Article
FILE SEGMENT: 027 Biophysics, Bioengineering and Medical Instrumentation
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Linear poly(acryloyl-L-proline methyl ester, A-ProOMe), obtained by radiation-induced polymerization of its ***monomer*** in ethanol, exhibits a lower critical solution temperature (***LCST***) of 14.degree.C. A minor amount of 2-hydroxypropyl ***methacrylate*** (HPMA) was copolymerized with A-ProOMe to obtain an intelligent biomedical gel for application in drug delivery systems. This gel is characterized by an initial shrinkage at the surface in the deswollen state, that results in formation of a rigid membrane barrier devoid of micropores, namely, a surface regulated matrix. Testosterone (T) was incorporated into this gel and, as a result, it was found that the daily dose of T released in vivo from this formulation remained constant at approximately 30 .mu.g/day throughout an experimental period of 54 weeks.

L22 ANSWER 4 OF 30 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 95140970 EMBASE
DOCUMENT NUMBER: 1995140970
TITLE: Macroporous gels: Facts and misfacts.
AUTHOR: Righetti P.G.
CORPORATE SOURCE: Faculty of Pharmacy, University of Milan, Via Celoria
2,20133 Milan, Italy
SOURCE: Journal of Chromatography A, (1995) 698/1-2 (3-17).
ISSN: 0021-9673 CODEN: JCRAEY
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Some extraordinary events have occurred in the last two years which might revolutionize the field of polyacrylamide gel electrophoresis. While it was widely recognized that such matrices could normally be cast with a small pore size distribution, typically of the order of a few nanometres diameter (for protein sieving), recent developments suggest that 'macroporous' gels could also be produced in the domain of polyacrylamides. If constraints on chain motion are imposed during gel polymerization, large-pore structures can be grown. Such constraints can originate either from low temperatures or from the presence of preformed polymers in the gelling solution; in both instances, the growing chains are forced to 'laterally aggregate' via inter-chain hydrogen bond formation. On consumption of pendant double bonds, such bundles are frozen in the three-dimensional space by permanent cross-links. As an additional development, a novel photopolymerization system is described, consisting of a ***cationic*** dye (methylene blue) and a redox couple (sodium toluene sulphinate, a reductant, and diphenyliodonium chloride, a mild oxidant). Methylene blue catalysis is characterized by a unique efficiency, ensuring >96% conversion of monomers even in aqueous-organic solvents and in presence of surfactants, which normally quench or completely inhibit the peroxodisulphate-driven reaction. In addition, methylene blue-sustained photopolymerization can be operated in the entire pH range 3-10, where most other systems fail. Perhaps the most striking novelty in the field is the appearance of a novel ***monomer*** (N-acryloylaminoethoxyethanol, AAEE) coupling a high hydrophilicity with a unique resistance to alkaline hydrolysis. Given the fact that a poly(AAEE) matrix is 500 times more stable than a poly(***acrylamide***) gel, while being twice as hydrophilic, it is expected that this novel chemistry will have no difficulties in replacing the old electrophoretic anticonvective media. The review ends with a glimpse at novel sieving media in capillary zone electrophoresis: polymer networks. Such media, by providing an almost infinite range of pore sizes, owing to the absence of a rigid support, allow sieving mechanisms to be operative over a wide interval of particle sizes, even up to genomic ***DNA*** . Viscous solutions of polymer networks, made with the novel poly(AAEE) chemistry, allow the repeated use of the same separation column, well above 50 injections. Silica-bound poly(AAEE) chains provide effective quenching of electrosmosis and >200 analyses by isoelectric focusing.

L22 ANSWER 5 OF 30 MEDLINE
ACCESSION NUMBER: 2000305903 MEDLINE
DOCUMENT NUMBER: 20305903 PubMed ID: 10846548
TITLE: Alteration of the p53 gene of lung carcinomas with sarcomatous transformation (spindle cell carcinoma): analysis of four cases.
AUTHOR: Kawano R; Takeshima Y; Inai K
CORPORATE SOURCE: Second Department of Pathology, Hiroshima University School of Medicine, Japan.
SOURCE: PATHOLOGY INTERNATIONAL, ***(1996 Jan)*** 46 (1) 38-45.
Journal code: 9431380. ISSN: 1320-5463.
PUB. COUNTRY: Australia
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200006
ENTRY DATE: Entered STN: 20000706
Last Updated on STN: 20000706
Entered Medline: 20000622
AB Lung carcinoma with sarcomatous transformation (***LCST***) is highly aggressive and characterized by local invasion and/or distant metastasis, which leads to a shorter survival than ordinary lung carcinomas. Therefore, to elucidate whether the malignant potential of the spindle cell element in ***LCST*** is associated with the alteration of the p53 gene, four cases were examined by analyses of overexpression of the p53 oncoprotein, mutation of the p53 gene and loss-of-heterozygosity (LOH) at chromosome 17p. In two cases overexpression of the p53 oncoprotein of the spindle cell component showed a higher degree of staining than that of the carcinoma component; LOH was identified in both carcinoma and sarcomatous components in one case, while in contrast, another case showed LOH in the sarcomatous component only. Mutations were clearly detected in two cases; one showed a CTT to CGT transversion in codon 194 of exon 6 in both components, whereas the other showed a CTG to CAG transversion in codon 265 of exon 8 in the sarcomatous component only. On the basis of these observations, it suggested that the sarcomatous component shows a higher frequency of p53 gene abnormalities in comparison to the carcinoma component. These results also suggested that the acquisition of malignant potential in the sarcomatous component, or the morphological alteration of

carcinoma cells, is correlated with abnormalities associated with the p53 gene.

L22 ANSWER 6 OF 30 MEDLINE
ACCESSION NUMBER: 96369944 MEDLINE
DOCUMENT NUMBER: 96369944 PubMed ID: 8773883
TITLE: Application of thermosensitive polymers as a new embolic material for intravascular neurosurgery.
AUTHOR: Matsumaru Y; Hyodo A; Nose T; Ito S; Hirano T; Ohashi S
CORPORATE SOURCE: Department of Neurosurgery, University of Tsukuba, Ibaraki, Japan.
SOURCE: JOURNAL OF BIOMATERIALS SCIENCE, POLYMER EDITION, ***(1996)*** 7 (9) 795-804.
Journal code: 9007393. ISSN: 0920-5063.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199702
ENTRY DATE: Entered STN: 19970306
Last Updated on STN: 19970306
Entered Medline: 19970224

AB Application of thermosensitive polymers as an embolic material for intravascular neurosurgery was investigated. We intended to use thermosensitive polymers to occlude vessels by precipitation in response to body temperature. Copolymers of N-isopropylacrylamide (NIPAM) and N-n-propylacrylamide (NPAM) were selected as thermosensitive polymers. To determine the optimal lower critical soluble temperature (***LCST***) for the embolic material, we developed an in vitro flow model. In this study the copolymers with an ***LCST*** of 24-26 degrees C showed appropriate precipitation. To prove the occlusion of vessels in vivo, we injected the copolymers into a rabbit kidney through a microcatheter. The extent of embolization was judged by angiography and histological examination. An acute toxicity test of the copolymer of NIPAM and NPAM was performed in comparison with that of the NIPAM ***monomer*** . The copolymer used in this paper showed no acute toxicity in mice. Water solubility, non-adhesiveness, and non-toxicity are the advantages of the use of thermosensitive polymers as an embolic material. By changing the ***LCST*** , various embolic materials can be designed. Based on our results, we believe that the application of thermosensitive polymers as a new embolic material is very promising.

L22 ANSWER 7 OF 30 MEDLINE
ACCESSION NUMBER: 95290573 MEDLINE
DOCUMENT NUMBER: 95290573 PubMed ID: 7772669
TITLE: Mechanism of cell detachment from temperature-modulated, hydrophilic-hydrophobic polymer surfaces.
AUTHOR: Okano T; Yamada N; Okuhara M; Sakai H; Sakurai Y
CORPORATE SOURCE: Institute of Biomedical Engineering, Tokyo Women's Medical College, Japan.
SOURCE: BIOMATERIALS, ***(1995 Mar)*** 16 (4) 297-303.
Journal code: 8100316. ISSN: 0142-9612.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199507
ENTRY DATE: Entered STN: 19950720
Last Updated on STN: 19980206
Entered Medline: 19950713

AB Poly(N-isopropylacrylamide) (PIPAAm), exhibiting a lower critical solution temperature (***LCST***) at 25 degrees C in physiological phosphate buffered saline solution (pH 7.4) and at 32 degrees C in pure water, was grafted onto the surfaces of commercial polystyrene cell culture dishes. This PIPAAm-grafted surface exhibited hydrophobic surface properties at temperatures over the ***LCST*** and hydrophilic surface properties below the ***LCST*** . Endothelial cells and hepatocytes attached and proliferated on PIPAAm-grafted surfaces at 37 degrees C, above the ***LCST*** . The cultured cells were readily detached from these surfaces by lowering the incubation temperature without the usual damage associated with trypsinization. In this case, the optimum temperature for cell detachment was 10 degrees C for hepatocytes and 20 degrees C for endothelial cells. Cell detachment was partially inhibited by sodium azide treatment, suggesting that cell metabolism directly affects cell detachment. Morphological changes of the adherent cells during cell detachment experiments indicated further involvement of active cellular metabolic processes. Cells detached from hydrophobic-hydrophilic PIPAAm surfaces not only via reduced cell-surface interactions caused by the spontaneous hydration of grafted PIPAAm chains, but also by active cell morphological changes which were a function of cell metabolism.

L22 ANSWER 8 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1995-351356 [45] WPIDS
DOC. NO. NON-CPI: N1995-261977
DOC. NO. CPI: C1995-153928
TITLE: Downhole fluid control process for controlling permeability - involves forcing soln. of low critical soln. temp. polymer into insolubilising zone in subterranean formation and insolubilising the polymer at above the low critical soln. temp..
DERWENT CLASS: A14 A97 H01 Q49
INVENTOR(S): FRAMPTON, H
PATENT ASSIGNEE(S): (ALCG) ALLIED COLLOIDS LTD
COUNTRY COUNT: 64
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9526455	A1	19951005 (199545)*	EN	41	<--

RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG US UZ VN
AU 9520791 A 19951017 (199604) <--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9526455	A1	WO 1995-GB722	19950328
AU 9520791	A	AU 1995-20791	19950328

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9520791	A Based on	WO 9526455

PRIORITY APPLN. INFO: GB 1994-6125 19940328
AN 1995-351356 [45] WPIDS
AB WO 9526455 A UPAB: 19951114
A downhole process involves forcing an aq. soln. of polymer down a well into an insolubilising zone in a subterranean formation, which has higher temp. than that of soln. in well, and insolubilising the polymer in the zone. The polymer soln. is an aq. soln. of a low critical soln. temp. (***LCST***) polymer with an ***LCST*** temp. in the well between the temp. of the soln. in the well and the temp. of the zone. The polymer is insolubilised by the increase in the temp. of the soln. towards the temp. in the zone.

The insolubilised polymer is subsequently solubilised by reducing the temp. in the zone, pref. by forcing liq. coolant adjacent to the zone. The process is a shutoff process in which the insolubilising zone is a prodn. zone adjacent to a prodn. well, or is an oil recovery process in which oil is displaced from a subterranean reservoir by fluid flooding and the insolubilising zone is a streak in the formation. The fluid flood is forced down the well and injected into the reservoir until a temp. profile has been developed in the reservoir consistent with the presence of a streak, and then sufficient polymer soln. is forced down the well as above. Fluid flood in absence of ***LCST*** polymer is subsequently resumed. The fluid flooding is with water or a water-thin liq. or steam.

The ***LCST*** polymer is a copolymer of 50-100% ***LCST***

monomer with 0-50% ***acrylamide*** , N,N-dimethylacrylamide,
Na acrylate, Amps, or quat. dimethylaminoethyl acrylate, the ***LCST***
monomer being selected from isopropylacrylamide, diacetone ***acrylamide*** and N-hydroxypropyl ***acrylamide*** . The ***LCST*** polymer is a linear polymer.
USE - Downhole fluid flooding/control process for oil recovery from subterranean formation.
ADVANTAGE - Simple method for controlling permeability in downhole
formations during fluid flooding. Polymer can be easily solubilised by cooling to reverse shutoff and allow increased flow when required.
Dwg.0/0

L22 ANSWER 9 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1994-328984 [41] WPIDS
DOC. NO. NON-CPI: N1994-258731
DOC. NO. CPI: C1994-149038
TITLE: Carrier for growth and regeneration of plants - contains a crosslinked thermosensitive polymer having lower critical soln. temp..
DERWENT CLASS: A97 C06 D16 P13
PATENT ASSIGNEE(S): (TANZ-I) TANZAWA H
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 06253831	A	19940913	(199441)*		9 <--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 06253831	A	JP 1993-44085	19930304

PRIORITY APPLN. INFO: JP 1993-44085 19930304
AN 1994-328984 [41] WPIDS
AB JP 06253831 A UPAB: 19941206
A carrier for growth and regeneration of plants contains a crosslinked thermosensitive polymer having a ***LCST*** (lower critical soln. temp.). Its use is also claimed.
Typically, a thermosensitive polymer with ***LCST*** (e.g. poly-N-acryloylpiperidine, poly-N-isopropylacrylamide, poly-N-isopropylmethacrylamide, poly-N-acryloylpyrrolidine and poly-N-cyclopropylmethacrylamide) is polymerised with a hydrophilic and hydrophobic ***monomer*** (e.g. N-vinylpyrrolidone, ***acrylamide***
, hydroxyethyl ***methacrylate*** , ethyl acrylate, butyl ***methacrylate*** , N-n-butyl- ***methacrylamide*** , vinyl chloride,
acrylonitrile, styrene and vinyl chloride) and crosslinked with conventional methods at ratios of about 0.2-10, pref. 0.5-4 mole%.
USE/ADVANTAGE - Gel culture of plants with easy embedding and recovery of plants without affecting the plants.
In an example, 100 ml distilled water, 15 g N-isopropylacrylamide and 0.1 g each of N,N'-methylenebisacrylamide and ammonium persulphate were
dissolved and stirred in 1,000 ml of hexane contg. 10 g sorbitan monooleate in N2 atmosphere to give a suspension. To the suspension, 3 ml
N,N,N',N'-tetramethylethylenediamine was added and polymerised at room
temp. for 4 hrs. Aq. phase was sepd. and washed 3 times with 500 ml each of hexane, then cooled to 4 deg.C in 1,000 ml of distilled water, warmed at 40 deg.C to shrink the desired micro-beads carrier and dried in vacuo.
Dwg.0/2

L22 ANSWER 10 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1993-198513 [25] WPIDS
DOC. NO. CPI: C1993-087856
TITLE: Polymer mixts. with high impact strength - contain at least two 2- or poly-phase polymers contg. tough phases and hard phases, which are chemically different but compatible.
DERWENT CLASS: A18 A23 G02
INVENTOR(S): FISHER, J; KORALEWSKI, K; SIOL, W; TERBRACK, U; FISCHER, J
PATENT ASSIGNEE(S): (SIOL-I) SIOL W; (ROHG) ROEHM CHEM FAB; (ROHG) ROEHM GMBH
COUNTRY COUNT: 15
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 547481	A2	19930623	(199325)* GE		12 <--
R: AT BE CH DE DK ES FR GB IT LI NL SE					
CA 2085316	A	19930615	(199336)		<--
DE 4141319	A1	19931014	(199342)		11 <--
JP 05247314	A	19930924	(199343)		11 <--
US 5380797	A	19950110	(199508)		8 <--
EP 547481	A3	19931110	(199512)		<--
EP 547481	B1	19970305	(199714) GE		15
R: AT BE CH DE DK ES FR GB IT LI NL SE					
DE 59208118	G	19970410	(199720)		
ES 2101011	T3	19970701	(199736)		
CA 2085316	C	20010703	(200140) EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 547481	A2	EP 1992-120900	19921208
CA 2085316	A	CA 1992-2085316	19921214
DE 4141319	A1	DE 1991-4141319	19911214
JP 05247314	A	JP 1992-332827	19921214
US 5380797	A	US 1992-992259	19921214
EP 547481	A3	EP 1992-120900	19921208
EP 547481	B1	EP 1992-120900	19921208
DE 59208118	G	DE 1992-508118	19921208
		EP 1992-120900	19921208
ES 2101011	T3	EP 1992-120900	19921208
CA 2085316	C	CA 1992-2085316	19921214

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 59208118	G Based on	EP 547481
ES 2101011	T3 Based on	EP 547481

PRIORITY APPLN. INFO: DE 1991-4141319 19911214
AN 1993-198513 [25] WPIDS
AB EP 547481 A UPAB: 19931118
Polymer mixts. (M) with high impact strength are claimed, contg. 2 di- or multi-phase polymers P1 and P2. P1 consists of opt. crosslinked tough phase(s) A1 with Tg below 10 deg.C which are at least partly covalently bonded with thermoplastic hard phase(s) B1 with Tg above 30 deg.C and P2
consists of opt. crosslinked tough phase(s) A2 with Tg below 10 deg.C, covalently bonded to thermoplastic hard phase(s) B2 with Tg above 30 deg.C. Newly, (a) B1 is PVC, polystyrene, polymethylstyrene, polycarbonate, polyalkylene terephthalate or chlorinated rubber, (b) B2 is a polymer of formula (I), (c) mixts. of B1 and B2 , if not covalently bonded with A1 and A2, separate at temps. above 100 deg.C, and (d) polymers B1 and B2 contain no (meth)acrylontirile, maleic anhydride or N-substd. maleimide units (II). R1, R3 = H or Me; R2 = 1-6C alkyl; X = -COO-, -OCO- or -CONH-; R4 = opt. substd. 5-8C cycloalkyl or 6-12C aryl; x
and y make up to 100 wt.% (opt. with 0-20 wt.% other monomers present),
with y characterising the range 0-100 wt.%.
USE/ADVANTAGE - M are useful for producing moulded prods., coatings
and fibre-reinforced laminates (claimed). The invention provides polymer mixts. with high impact strength and notched impact strength, without adversely affecting the other desirable properties of the components (e.g. Vicat pt. etc.). The mixts. are useful for the prodn. of injection moulded or extruded housings, car bumpers, bearings etc.
Dwg.0/0
Dwg.0/0
ABEQ DE 4141319 A UPAB: 19931202

Polymer mixts. (M) with high impact strength are claimed, contg. 2 di- or multi-phase polymers P1 and P2. P1 consists of opt. crosslinked tough phase(s) A1 with Tg below 10 deg.C which are at least partly covalently bonded with thermoplastic hard phase(s) B1 with Tg above 30 deg.C. P2 consists of opt. crosslinked tough phase(s) A2 with Tg below 10 deg.C, covalently bonded to thermoplastic hard phase(s) B2 with Tg above 30 deg.C. B1 is PVC, polystyrene, polymethylstyrene, polycarbonate, polyalkylene terephthalate or chlorinated rubber. B2 is a polymer of formula (I). Mixts. of B1 and B2 , if not covalently bonded with A1 and A2, separate at temps. above 100 deg.C. Polymers B1 and B2 contain no (meth)acrylonitrile, maleic anhydride or N-substd. maleimide units (II).

In (I), R1, R3 = H or Me; R2 = 1-6C alkyl; X = -COO-, -OCO- or -CONH-; R4

= opt. substd. 5-8C cycloalkyl or 6-12C aryl; x and y make up to 100 wt.%

(opt. with 0-20 wt.% other monomers present), with y characterising the range 0-100 wt.%.

USE/ADVANTAGE - M are useful for producing moulded prods., coatings

and fibre-reinforced laminates (claimed). The invention provides polymer mixts. with high impact strength and notched impact strength, without adversely affecting the other desirable properties of the components (e.g. Vicat pt. etc.). The mixts. are useful for the prodn. of injection moulded or extruded housings, car bumpers, bearings etc.

Dwg.0/0

ABEQ US 5380797 A UPAB: 19950301

The high impact strength polymer blend of structurally different polymers P1 and P2, comprises: (1) 50-99 parts by wt. of a two-phase or multiphase polymer P1 having elastomer(s) A1, A1 having a Tg under 10 deg.C, a portion of A1 being covalently bonded to thermoplastic matrix polymer(s) B1, B1 having a Tg over 30 deg.C; and (2) 1-50 pts. wt. of a two-phase or multiphase polymer P2 having elastomer(s) A2, A2 having a Tg under 10 deg.C, a portion of A2 being covalently bonded to thermoplastic matrix polymer(s) B2, B2 having a Tg over 30 deg.C, where (a) B1 is polystyrene or poly-alpha-methylstyrene, and (b) B2 is a polymer of general formula (I), opt. with other monomers present in amts. of up to 20 wt.% based on the monomers of formula (I); (c) blends of B1 and B2 have sepn. temps. ***LCST*** above 100 deg.C; (d) B1 and B2 contain no (meth)acrylonitrile, maleic anhydride, or N-substd. maleimide ***monomer*** units contg. aromatic substits.; and (e) A1 is structurally different from A2. R1 and R3 are H or methyl; R2 is 1-6C alkyl; X is -C(O)-O-, -O-C(O)- or -C-(O)-NH-; R4 is 5-8C cycloalkyl; y is 5-100 wt.%; and x is 0-95 wt.%.

USE/ADVANTAGE - Casings, shock absorbers and load bearing mechanisms.

Improved impact strength.

Dwg.0/0

ABEQ EP 547481 B UPAB: 19970407

Highly impact-resistant polymer mixtures M comprising two two-phase or multi-phase polymers P1 and P2, wherein P1 comprises at least one optionally crosslinked viscous phase A1 having a glass transition temperature Tg less than 10 deg.C, which is at least partially covalently bonded with at least one thermoplastic hard phase B1 having a glass transition temperature Tg more than 30 deg.C, and P2 comprises at least one optionally crosslinked viscous phase A2 having a glass transition temperature Tg less than 10 deg.C which is at least partially covalently bonded with at least one thermoplastic hard phase B2 having a glass transition temperature Tg more than 30 deg.C, characterised in that (a) the hard phase B1 comprises a polymer selected from the group polystyrene,

polymethylstyrene, polycarbonate, polyalkylene terephthalate, or chlorine rubber, and in that (b) the hard phase B2 comprises a polymer of formula (I) wherein R1, R3 is hydrogen, methyl; R2 is alkyl having 1 to 6 carbon atoms; -X- is -COC-, O-CO, -CONH- and R4 is an optionally substituted cycloalkyl group having 5 to 8 carbon atoms or an optionally substituted aryl group having 6 to 12 carbon atoms, and x and y optionally with further monomers present in amounts of 0 to 20 wt.%, make up 100 wt.%, with the proviso that y characterises a range of between 0 to 100 wt.%, and in that (c) mixtures comprising the hard phase polymers B1 and B2 have, unless they are covalently bonded with the viscous phase polymers A1

and A2, demixing temperatures of more than 100 deg.C, and in that (d) the hard phase polymers B1 and B2 do not comprise any ***monomer*** units

selected from the group acrylonitrile, ***methacrylonitrile*** , maleic acid anhydride and N-substituted maleimide with aromatic substituents.

Dwg.0/0

L22 ANSWER 11 OF 30 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1992-331084 [40] WPIDS

CROSS REFERENCE: 1989-108502 [15]; 1991-324562 [44]; 1992-150243 [18]

DOC. NO. CPI: C1992-147244

TITLE: Aq. polymer solns. and gels showing temp.-dependent phase

sepn. - contain opt. crosslinked copolymer of N,N-di methyl ***acrylamide*** and (alkoxy)alkyl acrylate monomers.

DERWENT CLASS: A14 A96 A97 B07 G04 J01

INVENTOR(S): MUELLER, K F

PATENT ASSIGNEE(S): (CIBA) CIBA GEIGY CORP

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5147923	A	19920915 (199240)*	9	<--	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5147923	A	CIP of US 1987-105070	19871005
		CIP of US 1988-200212	19880531
		CIP of US 1989-343979	19890426
		Div ex US 1990-620223	19901129
		US 1992-830141	19920203

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 5147923	A Div ex	US 5104954

PRIORITY APPLN. INFO: US 1987-105070 19871005; US 1988-200212 19880531; US 1989-343979 19890426; US 1990-620223 19901129; US 1992-830141 19920203

AN 1992-331084 [40] WPIDS

CR 1989-108502 [15]; 1991-324562 [44]; 1992-150243 [18]

AB US 5147923 A UPAB: 19931006

Compsns. exhibiting a reversible temp.-dependent clear-to-opaque transition and a Lower Critical Soln. Temp. (***LCST***) between 1 and

95 deg.C comprise 10-99.8 wt.% water and 90-0.2 wt.% of a crosslinked or

linear water-swellable random copolymer (I) which is the polymerisation prod. of (a) 20-85 wt.% N,N-dimethylacrylamide (DMA); (b) 15-80 wt.% aliphatic, cycloaliphatic, aromatic or alkaromatic (1-18C hydrocarbyl) acrylate and/or mono- or poly(2-5C alkoxy)ethyl acrylate; (c) 0-5 wt.% polyolefinic crosslinking ***monomer*** ; and (d) 0-20 (pref. 0-10) wt.% mono-olefinic monomers; providing (i) if (c) is above zero then (d) is zero, (a) is 20-55 wt.% and the equilibrium water content of the crosslinked polymer is 12-55 wt.% of the swollen gel, and (ii) if (b) is methyl, ethyl, propyl or butyl acrylate the polymer is uncrosslinked (c = zero). Opt. the uncrosslinked compsn. may contain 0.5-30 wt.% organic solvent which is at least 1% soluble in water.

Also claimed are aq. polymeric gels contg. 50-99 wt.% water and 0.5-20 wt.% of a soluble poly-(N-alkylacrylamide), pref. falling within the scope of (I), with ***LCST*** between 0 and 95 deg.C.

USE/ADVANTAGE - (I) in the form of aq. solns., or gels obtd. by incorporating them into known gel-forming media, exhibit temp.-dependent

reversible phase sepns. giving rise to the clear-to-opaque transitions. As such they are useful in drug delivery systems, absorption and extraction processes, and as qualitative thermometers, thermosensors, and self-activating sunscreens e.g. in greenhouses.

0/0

L22 ANSWER 12 OF 30 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1992-293786 [36] WPIDS

DOC. NO. NON-CPI: N1992-225064

DOC. NO. CPI: C1992-130581

TITLE: Electrophoretic gel comprises polymer with lower critical soln. temp. - based e.g. on N-alkyl ***acrylamide*** and bi functional crosslinking agent, for sepg. protein or ***nucleic*** ***acid*** , allowing simple high

yield recovery by temp. change.
DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): MORI, Y; YOSHIOKA, H
PATENT ASSIGNEE(S): (GRAC) GRACE & CO-CONN W R
COUNTRY COUNT: 9
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 501301	A2	19920902 (199236)* EN		7	<--
R: CH DE FR GB IT LI SE					
JP 04278451	A	19921005 (199246)		5	<--
JP 04278452	A	19921005 (199246)		4	<--
US 5225062	A	19930706 (199328)		5	<--
US 5238545	A	19930824 (199335)		5	<--
EP 501301	A3	19930224 (199348)			<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 501301	A2	EP 1992-102798	19920220
JP 04278451	A	JP 1991-32643	19910227
JP 04278452	A	JP 1991-32644	19910227
US 5225062	A	US 1992-826725	19920128
US 5238545	A Div ex	US 1992-826725	19920128
		US 1993-4882	19930119
EP 501301	A3	EP 1992-102798	19920220

PRIORITY APPLN. INFO: JP 1991-32643 19910227; JP 1991-32644 19910227
AN 1992-293786 [36] WPIDS
AB EP 501301 A UPAB: 19940120
Electrophoretic gel for sepn. and recovery of cpds. (A) comprises at least one crosslinked, temp.-responsive polymeric cpd. (I) having a lower critical soln. temp. (***LCST***).
(I) is pref. a copolymer of (a) a ***monomer*** (II) able to form a polymer with ***LCST*** and (b) a bifunctional ***monomer*** (III). It may also include additional hydrophilic or hydrophobic monomers. (I) may be decomposable by oxidn. redn. or hydrolysis; in this case (III) contains a disulphide, ester or amidomethylol linkage.
USE/ADVANTAGE - The gels are used to separate proteins or nucleic acids. They make possible high yield recovery of these cpds. simply by varying the temp.
Dwg.0/0
ABEQ US 5225062 A UPAB: 19931116
Electrophoretic gel for sepn. and recovery of substances comprises at least one crosslinked temp.-responsive polymer having a ***LCST*** which is a copolymer decomposable by oxidn. or redn. Copolymer is made
from a ***monomer*** selected from N-acryloyl piperidine, N-n-propyl ***methacrylamide*** , N-isopropyl ***acrylamide*** , N,N-diethyl ***acrylamide*** , N-acryloyl pyrrolidine, N,N-ethylenethyl ***acrylamide*** , N-acryloyl pyrrolidine, N,N-ethylmethyl ***acrylamide*** , N-cyclopropyl ***methacrylamide*** and N-ethyl ***acrylamide*** , and a bifunctional ***monomer*** selected from N,N'-diallyl tartardiamide, N,N'-(1,2-dihydroxyethylene) bisacrylamide and N,N'-bisacryl cystamine.
USE/ADVANTAGE - For sepn. and recovery of proteins and nucleic acids at high yields.
Dwg.0/0
ABEQ US 5238545 A UPAB: 19931119
Sepg. and recovering substances comprises: (a) conducting electrophoresis of a sample containing substances to be sepd. using an electrophoretic gel comprising at least one crosslinked temperature-responsive polymeric cpd. having a lower critical soln. temp. (***LCST***) below the ***LCST*** ; (b) dxcising each portion of the gel containing the substance to be sepd., and (c) shrinking each excused portion of the gel by raising the temp. of the excised portion to a temp. above the ***LCST*** of the gel to recover the substances.
USE/ADVANTAGE - For sepn. and recovery of e.g. proteins, nucleic acids and their fragments.
Dwg.0/0
ABEQ EP 501301 A UPAB: 19940120
Electrophoretic gel for sepn. and recovery of cpds. (A) comprises at least one crosslinked, temp.-responsive polymeric cpd. (I) having a lower critical soln. temp. (***LCST***).
(I) is pref. a copolymer of (a) a ***monomer*** (II) able to form a polymer with ***LCST*** and (b) a bifunctional ***monomer*** (III). It may also include additional hydrophilic or hydrophobic monomers. (I) may be decomposable by oxidn. redn. or hydrolysis; in this case (III) contains a disulphide, ester or amidomethylol linkage.
USE/ADVANTAGE - The gels are used to separate proteins or nucleic acids. They make possible high yield recovery of these cpds. simply by varying the temp.

L22 ANSWER 13 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1992-038615 [05] WPIDS
TITLE: Graft copolymer for medical materials, food packaging, etc. - comprises vinyl chloride polymer grafted with N-substd. (meth) ***acrylamide*** deriv..
DERWENT CLASS: A14 A92 A96 D16 J01
INVENTOR(S): MIKAMI, M; MORI, Y; YOSHIOKA, H
PATENT ASSIGNEE(S): (GRAC) GRACE & CO-CONN W R
COUNTRY COUNT: 6
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 03285903	A	19911217 (199205)*			<--
EP 534015	A1	19930331 (199313)# EN		9	<--
R: DE FR GB IT					
US 5426154	A	19950620 (199530)#		6	<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 03285903	A	JP 1990-88987	19900403
EP 534015	A1	EP 1991-250260	19910925
US 5426154	A	US 1991-762280	19910919

PRIORITY APPLN. INFO: JP 1990-88987 19900403; EP 1991-250260 19910925; US 1991-762280 19910919
AN 1992-038615 [05] WPIDS
AB JP 03285903 A UPAB: 19931006
A polymer component (A component) comprising an N substd. (meth) ***acrylamide*** . deriv.e or a copolymer component (A' component) comprising an N substd. ***acrylamide*** . deriv. and various monomers
is grafted to a vinyl chloride unit-contg. polymer component (B component). The graft copolymer comprises the A component or A' component
in amt. of at least 5 wt. % and the B component in amt. up to 95 wt. %. Lower critical soln. temp. is 0-100 deg. C.
USE - For medical materials, various coating agents for cell culture or for antifouling, antiblooming, food packaging materials, a selective transmission film, a separation film, or a shading film for greenhouses. (a
0/0
ABEQ US 5426154 A UPAB: 19950804
A polymer is obtd. by A) grafting at least 5 wt.% of a) N-substd. (meth) ***acrylamide*** deriv. esp. N-propyl ***acrylamide*** or b) a mixt.
of a) and a ***monomer*** copolymerisable with a) onto B) a polymer contg. vinyl chloride units in the main chain. The polymer of a) and the copolymer of b) has a ***LCST*** 0-100 deg.C. The comonomer in b) is
pref. hydrophilic, e.g. N-vinyl pyrrolidone, OH-Me ***methacrylate*** , N,N-dimethylaminopropyl ***acrylamide*** , including the salts thereof,
or hydrophobic, e.g. Et acrylate, esp. n-butyl ***methacrylate*** . B) is esp. PVC.
USE/ADVANTAGE - As thermally reversible polymer in light shielding
members, e.g. for greenhouses, as absorbent, as medical material, coating agent for cell cultures, for packaging of foods, as selective permeable membrane, as separation membrane. The polymer has good mouldability and
mechanical properties. It is readily soluble in organic solvents and can be readily fixed on the surface of sheets, plates, films and filters.
Dwg.0/2

L22 ANSWER 14 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1992-009138 [02] WPIDS
TITLE: New method for injecting substances into cells - by immobilising and then detaching the cells.
DERWENT CLASS: A96 B04 D16
PATENT ASSIGNEE(S): (MORI-I) MORI Y; (GRAC) GRACE & CO-CONN W R
COUNTRY COUNT: 6
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 463508	A	19920102	(199202)*		<--
R: DE FR GB IT					
CA 2044307	A	19911230	(199213)		<--
JP 04063597	A	19920228	(199215)		6 <--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 463508	A	EP 1991-109774	19910614
JP 04063597	A	JP 1990-174305	19900629

PRIORITY APPLN. INFO: JP 1990-174305 19900629
AN 1992-009138 [02] WPIDS
AB EP 463508 A UPAB: 19931006
A method for injecting a substance into a cell is claimed, comprising: (i) Immobilising a cell on a plate comprising: (a) A temp.-responsive polymeric cpd. having a lower critical soln. temp. (***LCST***) lower than the injection temp.; and (b) A cell adhesive substance, at temp. higher than the ***LCST*** ; (ii) Injecting a substance into the cell immobilised on the plate at a temp. higher than the ***LCST*** ; and (iii) lowering the temp. to below the ***LCST*** to detach and recover the cell injected with the substance from plate.

The substance is injected by microinjection. The temp. responsive polymeric cpd. is selected from poly-N-subs. acrylamide derivs., poly-N-subs. methacrylamide derivs. or their copolymers, polyvinyl methyl ethers and partially acetylated polyvinyl alcohols. The cell adhesive substance is selected from extracellular matrix components, gelatin, lectins, anchorage oligopeptides, adhesive proteins isolated from shellfish, positively charged polymers and their mixts. The extracellular matrix component is selected from collagen, fibronectin, vitronectin, laminin, proteoglycan, glycosaminoglycan and thrombospandin.

USE/ADVANTAGE - The method is used to inject genes, embryos, proteins, MONAS, ***plasmid*** vectors, enzymes, and viruses into mammalian cells e.g. tissue and/or organ cells, blood cells and cocytes. It may be used in the fields of genetic, protein, cell, embryonic and tissue/organ engineering without damage to the cells. Damage of the cell membrane due to the glass pipette previously used is reduced, and cell detaching agents e.g. proteolytic enzymes (i.e. trypsin) and EDTA are not used. @
0/0

L22 ANSWER 15 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1991-052592 [08] WPIDS
DOC. NO. CPI: C1991-022309
TITLE: Temp. sensitive drug carrier - is liq. on admin. and solid in vivo for easy admin. and controlled slow drug release.
DERWENT CLASS: A96 B07 C03
INVENTOR(S): MORI, Y; SAKAI, T
PATENT ASSIGNEE(S): (GRAC) GRACE & CO-CONN W R
COUNTRY COUNT: 6
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 413281	A	19910220	(199108)*		<--
R: DE FR GB IT					
JP 03083914	A	19910409	(199120)#		<--
US 5053228	A	19911001	(199142)		<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 413281	A	EP 1990-113470	19900811
JP 03083914	A	JP 1989-212855	19890818
US 5053228	A	US 1990-552042	19900713

PRIORITY APPLN. INFO: JP 1989-212855 19890818
AN 1991-052592 [08] WPIDS
AB EP 413281 A UPAB: 19930928
A drug carrier comprises a drug (I) chemically bound to a temp.-sensitive polymeric cpd. (II) with a lower "lower critical soln. temp." (***LCST***) than human body temp.

ADVANTAGE - The carrier is easily administered as a liq. via injection and uniformly throughout tissues when admininistered topically to target organs, providing good drug targetting. It solidifies at temps. in excess of 37 deg.C and is pptd. within the body, allowing slow drug release due to slow hydrolysis of the covalent bond.
0/0
ABEQ US 5053228 A UPAB: 19930928
Admin. a slow release drug comprises forming a hydrolysable covalent bond between a selected temp.-sensitive polymer and a selected drug, so that the resulting polymer and drug cpd. has a lower ***LCST*** than body temp. The cpd. is admin. as liq. soln. at temp. below body temp. but a a solid in the body.

A pref. polymeric cpd. is a poly(N-substd. ***acrylamide***), a poly(N-substd. ***methacrylamide***) their copolymers, a polymethylvinyl ether or partially acetylated (30-50%) polyvinyl alcohol. Pref. the covalent bond is an ester, amide, urethane, urea, carbamate, thiol ester, or hydrazone bond. Suitable drugs include anticancer agents, hormones, antibiotics, narcotic antagonists, analgesics, antiinflammatories, hypotensives, anti-depressants, anti-epileptics, antimalarials, and immunoactivators.

Pref. is e.g. by chemically reacting the drug with polymer, or polymerising the ***monomer*** contg. the drug.

ADVANTAGE - The drug is released continuously without exponential decrease giving uniform long-term concn. in tissues. By choosing a cpd. with ***LCST*** below body temp. when bonded to drug but above when as freed polymer (and M.W. below 50000), the freed polymer after drug release is excreted. A suitable negative temp. coefficient of drug-polymer cpd. in water may be obtd. by use of hydrophilic and hydrophobic monomers. @(6pp)

L22 ANSWER 16 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1990-148608 [20] WPIDS
DOC. NO. NON-CPI: N1990-115174
DOC. NO. CPI: C1990-065048
TITLE: Aromatic polycarbonate articles coated with layer contg. UV absorber - and ***methacrylate*** copolymer compatible with polycarbonate, have improved protection against weathering.
DERWENT CLASS: A14 A23 P42 P54 P73
INVENTOR(S): FISHCHER, J D; GOLCHERT, U; MUNZER, M; SCHINZEL, F
PATENT ASSIGNEE(S): (ROHG) ROEHM GMBH CHEM FAB; (FISC-I) FISCHER J D; (ROHG) ROEHM GMBH
COUNTRY COUNT: 14
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 3837589	A	19900510	(199020)*		9 <--
EP 372213	A	19900613	(199024)		<--
R: AT BE CH DE ES FR GB IT LI NL SE					
CA 2002177	A	19900505	(199026)		<--
JP 02175246	A	19900706	(199033)		<--
US 5061558	A	19911029	(199146)		7 <--
EP 372213	B1	19930519	(199320)	GE	15 <--
R: AT BE CH DE ES FR GB IT LI NL SE					
DE 58904426	G	19930624	(199326)		<--
ES 2057056	T3	19941016	(199442)		<--
CA 2002177	C	19980721	(199840)		
JP 2941315	B2	19990825	(199940)		9

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 3837589	A	DE 1988-3837589	19881105
EP 372213	A	EP 1989-119969	19891027
JP 02175246	A	JP 1989-287629	19891106
US 5061558	A	US 1989-432383	19891106
EP 372213	B1	EP 1989-119969	19891027
DE 58904426	G	DE 1989-504426	19891027
		EP 1989-119969	19891027
ES 2057056	T3	EP 1989-119969	19891027
CA 2002177	C	CA 1989-2002177	19891103
JP 2941315	B2	JP 1989-287629	19891106

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 58904426	G Based on	EP 372213
ES 2057056	T3 Based on	EP 372213
JP 2941315	B2 Previous Publ.	JP 02175246

PRIORITY APPLN. INFO: DE 1988-3837589 19881105
AN 1990-148608 [20] WPIDS
AB DE 3837589 A UPAB: 19930928
Multilayer articles (I) comprises (1) core layer of more than 50 wt.% aromatic polycarbonate (II) (2) applied thereon, layer comprising (A) 0.01-50 wt.% UV absorber of wt. average mol. wt. at least (sic, at most is intended) 5000; (B) 99.99-50 wt.% specified thermoplastically processable ***methacrylate*** copolymer (III) of wt. average mol. wt. at least 30,000, mixt. of (II) and (III) being compatible in an proportion and having lower sepn. temp. (***LCST***) 120 deg.C, Opt. (2) is covered by further layer(s). (III) comprises (b1) 99.9-5 wt.% Me ***methacrylate*** units and opt. 0-40 wt.% other alpha,beta-unsatd. ***monomer*** units, and (b2.1) 0.1-95 wt.% units from acrylate and/or ***methacrylate*** ester of formula H2C=C(R)-C(:O)-O-R1, R = H or Me; R1 = Y or AY, where Y = cycloalkyl, opt. substd. by one or more alkyl, of 5-12C, or aryl, opt. substd. by alkyl or oxyalkyl, of 6-12C; A = opt. branched 1-6C alkylene or a 2-4C oxyalkylene, and/or (b2.2) 0.1-95 wt.% units from N-substd. (meth) ***acrylamide*** of formula H2C=C(R)-C(:O)-N(H)-R2, R2 = organic residue of cyclic, opt. substd., aliphatic or aromatic mol. of 5-12C, and/or (b2.3) 0.1-95 wt.% units from N-cycloalkylmaleimide of formula (i), where R3 = cycloalkyl, opt. substd. by 1-6C alkyl or Ph, cyclic substits. R1, R2, R3 showing no pronounced absorption for visible light down to UV of 340 nm.
Prepn. of (I) by applying (2) 1-500, partic. 1-50, microns thick on (1) by coextrusion or by coating, opt. with further top coats.
USE/ADVANTAGE - Protecting articles of (II) against sunlight and weathering, partic. glazing and construction elements, esp. in greenhouses. (2) adheres well to (1) and resists hail.
0/0
ABEQ US 5061558 A UPAB: 19930928
A multilayered object comprising a core aromatic polycarbonate layer (1) is new. (I) comprises more than 50 wt% of an aromatic polycarbonate and a thermoplastic polymethacrylate film contg an UV-absorber in contact with (I). The film comprises (A) and (B). (A) is 0.01-50 wt% of a UV absorber with a molecular wt of less than or equal to 5000. (B) is 99.99-50 wt% of a ***methacrylate*** copolymer comprising (a), (b), (c) and (d). (a) is 99.5-5 wt% of ***methacrylate*** ***monomer*** units and 0-40 wt% ***monomer*** units of an alpha, beta-unsatd copolymerisable ***monomer*** . (b) is 0.1-95 wt% ***acrylic*** and or ***methacrylic*** ester ***monomer*** units from monomers of the formula H2C=C(R)-C(0)-0-R1 (II) where R = H or methyl gp; R1 = Y or A-Y wherein Y = 5-12C-cycloalkyl gp opt substd with one or more alkyl gps, a 6-12C aryl or alkyl substd or oxyalkyl- substd aryl gp; A = 1-6C alkylene or 2-4C oxyalkylene gp. (c) is 0.1-95 wt% of monosubstd (methy)- ***acrylamide*** ***monomer*** units from monomers of formula H2C=C(R)-C(0)-NH-R2 (III) where R = H or methyl gp; R2 = 5-12C cycloalkyl or aryl gp opt substd (d) is 0.1-95 wt% of maleimide units from monomers of formula (IV), where R3 = cycloalkyl gp opt substd with 1-6C alkyl or phenyl gps (B) may comprise mixtures of any of (b), (c) and (d), R1, R2 and R3 have no substantial absorption for visible light down to uv radn of 340 nm wavelength. Aromatic poly-carbonate and copolymer (B) are compatible at all mixing ratios.
USE/ADVANTAGE - These objects have high weather-resistance.
ABEQ EP 372213 B UPAB: 19931113
A multilayered plastics body, having a core layer of more than 50 wt.% of bisphenol-A-polycarbonate and a thermoplastic polymethacrylate plastics layer applied thereto and containing ultraviolet absorber, which plastics layer may be covered by still further layers, characterised in that the polymethacrylate plastics layer may be covered by still further layers, characterised in that the polymethacrylate plastics layer consists of (A) 0.01 to 50 wt.% of an ultraviolet absorber, having a molecular weight Mw upto 5000, and (B) 99.99 to 50 wt.% of a ***methacrylate*** copolymer,
synthesised from (b1) 99.9 to 5 wt.%, more particularly 95 to 20 wt.%, of methlmethacrylate units and, optionally, further alpha-beta-unsaturated ***monomer*** units in amounts of 0 to 40 wt.% and (b2.1) from 0.1 to 95 wt.%, more particularly 5 to 80 wt.%, of ***methacrylic*** ester units having carbocyclic groups in the ester radical of formula CH2C=C(CH3)-C(O)-O-R1 (I) wherein R1: represents Y or A-Y, whereby Y is a cycloalkyl or a mono - or polyalkyl-substituted cycloalkyl group having 5 to 12 carbon atoms, or, optionally, an alkyl- or an oxyalkyl-substituted aryl group having 6 to 12 carbon atoms, and A is an alkylene group which may also be branched, having 1 to 6 carbon atoms, or an oxyalkylene group having 2 to 4 carbon atoms, and/or (b2.2) from 0.1 to 95, more particularly 5 to 25 wt.%, of mono-substituted (meth) ***acrylamide*** units consisting of monomers of general formula H2C=C(R)-C(O)-N-R2 (II) wherein R: represents H or CH3 and R2: an organic group of a cyclic, optionally substituted molecule with an aliphatic or aromatic structure, having 5 to 12 carbon atoms, and/or (b2.3) from 0.1 to 95, more particularly 5 to 40%, of maleinimide units of formula III wherein R3: represents an optionally substituted cycloalkyl group, and the substituents are then alkyl groups having 1 to 6 carbon atoms or a phenyl group, whereby the cyclic groups of R1, R2 and R3 have no distinct absorption ability for visible light up to utralviolet radiation of 340 nm, the copolymer (B) has a molecular weight Mw between 30,000 and 250,000 and may be processed thermoplastically, and a mixture consisting of bisphenol-A-polycarbonate (PC) and copolymer (B) is compatible in each ratio and has a lower demixing temperature (***LCST***) at least 120 deg.C.
Dwg.0/0

L22 ANSWER 17 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1990-148607 [20] WPIDS
DOC. NO. NON-CPI: N1990-115173
DOC. NO. CPI: C1990-065047
TITLE: Impact-resistant UV-protective layer for polycarbonate - comprises 2-phase system contg. low glass transition polymer, UV-absorber and copolymer of MMA and carbocyclic (meth)acrylate.
DERWENT CLASS: A14 A23 A93 P42 P73
INVENTOR(S): FISCHER, J D; GROSS, H; RHEIN, T; SIOL, W; SUFKE, T; SUEFKE, T
PATENT ASSIGNEE(S): (GROS-I) GROSS H; (ROHG) ROEHM GMBH
COUNTRY COUNT: 14
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	
DE 3837588	A	19900510	(199020)*			<--
EP 368094	A	19900516	(199020)			<--
R: AT BE CH DE ES FR GB IT LI NL SE						
CA 2002178	A	19900511	(199027)			<--
JP 02175245	A	19900706	(199033)			<--
US 5063112	A	19911105	(199147)			<--
EP 368094	B	19920506	(199219)	GE	13	<--
R: AT BE CH DE ES FR GB IT LI NL SE						
DE 58901338	G	19920611	(199225)			<--
ES 2031335	T3	19921201	(199301)			<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 3837588	A	DE 1988-3837588	19881105
EP 368094	A	EP 1989-119970	19891027
JP 02175245	A	JP 1989-287628	19891106
US 5063112	A	US 1989-432388	19891106
EP 368094	B	EP 1989-119970	19891027
DE 58901338	G	DE 1989-501338	19891027
		EP 1989-119970	19891027
ES 2031335	T3	EP 1989-119970	19891027

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 58901338	G Based on	EP 368094
ES 2031335	T3 Based on	EP 368094

PRIORITY APPLN. INFO: DE 1988-3837588 19881105
**** DATA NOT AVAILABLE FOR THIS ACCESSION NUMBER

L22 ANSWER 18 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1989-086705 [12] WPIDS
DOC. NO. NON-CPI: N1989-066116
DOC. NO. CPI: C1989-038379
TITLE: Compatible polymer mixts. used in paints, etc. - comprise styrene polymer and copolymer of cyclohexyl, methyl or ethyl and hydrocarbyl ***methacrylate*** (s).
DERWENT CLASS: A13 A14 A89 G02 P73 P81 V07
INVENTOR(S): SIOL, W; TERBRACK, U; TERBRECK, U
PATENT ASSIGNEE(S): (ROHG) ROEHM GMBH
COUNTRY COUNT: 10
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 3730026	A	19890316	(198912)*		7 <--
FR 2620126	A	19890310	(198917)		<--
JP 01070548	A	19890316	(198917)		<--
NL 8802137	A	19890403	(198917)		<--
GB 2209527	A	19890517	(198920)		<--
BE 1001241	A	19890829	(198937)		<--
US 4892909	A	19900109	(199010)		6 <--
US 4948668	A	19900814	(199035)		<--
GB 2209527	B	19910227	(199109)		<--
IT 1223805	B	19900926	(199221)		<--
CA 1304859	C	19920707	(199233)		<--
BE 1003993	A3	19920908	(199246)		19 <--
KR 9404847	B1	19940602	(199611)		<--
DE 3730026	C2	19960328	(199617)		8 <--
JP 2758173	B2	19980528	(199826)		6
NL 194127	B	20010301	(200115)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 3730026	A	DE 1987-3730026	19870908
FR 2620126	A	FR 1988-10738	19880809
JP 01070548	A	JP 1988-222585	19880907
NL 8802137	A	NL 1988-2137	19880830
GB 2209527	A	GB 1988-21021	19880907
BE 1001241	A	BE 1988-1024	19880907
US 4892909	A	US 1988-233754	19880819
US 4948668	A	US 1989-424991	19891023
IT 1223805	B	IT 1988-67798	19880907
CA 1304859	C	CA 1988-576817	19880908
BE 1003993	A3	BE 1989-656	19890616
KR 9404847	B1	KR 1988-11517	19880907
DE 3730026	C2	DE 1987-3730026	19870908
JP 2758173	B2	JP 1988-222585	19880907
NL 194127	B	NL 1988-2137	19880830

FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 2758173	B2 Previous Publ.	JP 01070548

PRIORITY APPLN. INFO: DE 1987-3730026 19870908
AN 1989-086705 [12] WPIDS
AB DE 3730026 A UPAB: 19930923
Compatible polymer mixts. (I) comprise 0.1-99.9 wt.% polymer P1 of ***monomer*** units of formula CH2=CH-C6H4R1 (with R1 = H or Me) and
99.9-0.1 wt.% copolymer P2 contg. 5-40 wt.% cyclohexyl ***methacrylate*** (II), 30-70 wt.% methyl or ethyl ***methacrylate***
(III), 10-50 wt.% 4-18C hydrocarbyl ***methacrylate*** (IV) and 0-10 wt.% other comonomer.
Pref., (I) have a Lower Critical Solution Temp. (***LCST***), and (III) is MMA.
USE/ADVANTAGE - Copolymers of (II) and MMA are compatible with
styrene polymers (P1), but the mixts. are brittle; incorporation of longer-chain alkyl ***methacrylate*** comonomer (IV) enables the amt.
of embrittling comonomer (II) to be markedly reduced in such mixts., and (I) have ***LCST*** values 50-150 deg.C higher than those of mixts. contg. binary copolymers. (I) are of partic. interest in paints, esp. when (III) is MMA and (IV) is n-butyl ***methacrylate*** , and also for the prodn. of optical switches.
0/0
ABEQ GB 2209527 B UPAB: 19930923
A compatible polymer blend comprising (A) 0.1-99.9% by weight of a polymer
which is synthesised from monomers of formula (I), wherein R1 represents a
hydrogen atom or a methyl group; and (B) 99.9-0.1% by weight of a copolymer which is synthesised from (a) 5-40% by weight of cyclohexylmethacrylate; (b) 30-70% by weight of a ***methacrylic*** acid ester of formula (II) (wherein R2 represents a methyl or ethyl group); (c) 10-50% by weight of a ***methacrylic*** acid ester of formula (III) (wherein R3 represents a hydrocarbon group with 4 to 18 carbon atoms), and optionally (d) 0-10 parts by weight of another ***monomer*** which is copolymerisable with the monomers according to
(a) to (c) but is different therefrom.
ABEQ US 4892909 A UPAB: 19930923
Compatible polymer blend comprisese (a) 0.1-99.9 wt.% of polymerisate formed from monomers of formula (I); and (b) 99.9-0.1 wt.% of copolymerisate formed from (i) 5-40 wt.% cyclohexyl ***methacrylate***
, (ii) 30-70 wt.% of ***methacrylic*** ester CH2= C(CH3)C(O)OR2, (iii)
10-50 wt.% of ***methacrylic*** ***methacrylic*** ester CH2=C(CH3)C(O)OR3, and (iv) 0-10 pts.wt. of compatatible but different
comonomer. R1 and R2 are each H and/or Me; and R3 is (4-18C) hydrocarbon.
Blend exhibits lower critical soln. temp.
ADVANTAGE - Has reduced brittleness.
ABEQ US 4948668 A UPAB: 19930923
Shaped article consists of a body formed from a polymerisate P1, which is formed from monomers of formula I, and the body is at least partially covered with a layer of polymerisate P2, which is formed from (a) 5-40 wt.% of cyclohexyl ***methacrylate*** , (b) 30-70 wt.% of a ***methacrylic*** ester of formula CH2=C(CH3)-C(=O)-OR2, (c) 10-50 wt.%
of a ***methacrylic*** ester of formula CH2=C(CH3)-C(=O)-OR3, and (d)
0-10 pts.wt. of a ***monomer*** M which is copolymerisable with monomers of (a)-(c), but different from these.
In the formula R1 is H or methyl; R2 is methyl or ethyl; and R3 is 4-18C hydrocarbon.
USE/ADVANTAGE - Polymer blend has reduced brittleness.

L22 ANSWER 19 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1989-078300 [11] WPIDS
DOC. NO. CPI: C1989-034724
TITLE: Compatible polystyrene- ***methacrylic*** ester copolymer blends - comprise poly(methyl)styrene and a copolymer of (m)ethyl ***methacrylate*** and a longer chain alkyl ***methacrylate*** .

DERWENT CLASS: A13 A14 P73
INVENTOR(S): SIOL, W; TERBRACK, U
PATENT ASSIGNEE(S): (ROHG) ROEHM GMBH
COUNTRY COUNT: 11
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 306785	A	19890315 (198911)*	GE	11	<--
R: BE DE ES FR GB NL SE					
DE 3730025	A	19890316 (198912)			<--
JP 01070547	A	19890316 (198917)			<--
US 4897441	A	19900130 (199012)		6	<--
US 4952455	A	19900828 (199037)#		7	<--
CA 1307365	C	19920908 (199242)			<--
EP 306785	B1	19930421 (199316)	GE	14	<--
R: BE DE ES FR GB NL SE					
DE 3880406	G	19930527 (199322)			<--
ES 2055722	T3	19940901 (199436)			<--
JP 2758172	B2	19980528 (199826)		8	
KR 9606157	B1	19960509 (199917)			<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 306785	A	EP 1988-114010	19880827
DE 3730025	A	DE 1987-3730025	19870908
JP 01070547	A	JP 1988-222584	19880907
US 4897441	A	US 1988-233753	19880819
US 4952455	A	US 1989-422670	19891017
CA 1307365	C	CA 1988-576816	19880908
EP 306785	B1	EP 1988-114010	19880827
DE 3880406	G	DE 1988-3880406	19880827
		EP 1988-114010	19880827
ES 2055722	T3	EP 1988-114010	19880827
JP 2758172	B2	JP 1988-222584	19880907
KR 9606157	B1	KR 1988-11484	19880906

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 3880406	G Based on	EP 306785
ES 2055722	T3 Based on	EP 306785
JP 2758172	B2 Previous Publ.	JP 01070547

PRIORITY APPLN. INFO: DE 1987-3730025 19870908
AN 1989-078300 [11] WPIDS
AB EP 306785 A UPAB: 19940103
Compatible polymer mixts. (PM) comprising (i) 0.1-99.9 wt.% of a polymer
(P1) from a styrene ***monomer*** (I) in which R1=H or CH3, and (ii) 99.9-0.1 wt.% of a copolymer (P2) comprising 30-90 pts. wt. of a ***methacrylic*** acid ester (II) in which R2=(m)ethyl and 70-10 pts. wt. of a ***methacrylic*** acid ester of formula (III) in which R3=3-24C hydrocarbon gp., and opt. (iii) 0-10 pts. wt. of a further ***monomer*** (IV) which is copolymerisable with (II) and (III).
USE/ADVANTAGE - The ***methacrylic*** ester copolymers (P2) overcome the normal incompatibility of ***methacrylic*** polymers with
polystyrene, and give compatible polymer mixts. PM having a lower critical
soln. temp. ***LCST*** of less than 150 deg.C, and exhibiting the improved optical and mechanical properties associated with compatible mixts. The mixts. can be injection moulded, extruded or cast into films from soln. Optical gradient fibres can be made with a core of the polymer P1 and a sheath of the polymer P2, the transition from core to sheath being continuous. Polystyrene articles can be coated with thin films of the copolymer P2, esp. where this contains a UV absorber and anti-ageing agents, to improve the resistance of the polystyrene to weathering, solvents, etc. The polymer mixts. PM based on copolymers P2 contg. functional comonomers such as ***methacrylic*** acid, dimethyl-aminoethyl (meth)acrylate, hydroxyethyl (meth)acrylate etc. are useful in lacquers.
Dwg.0/0
ABEQ EP 306785 B UPAB: 19930923
Compatible polymer mixtures PM consisting of (I) 0.1-99.9 wt.% of a polymer P1, which is synthesised from monomers of formula (I), wherein R1
represents hydrogen or methyl, and (II) 99.9-0.1 wt.% of a copolymer P2, synthesised from 30-90 parts by weight of a ***methacrylic*** acid ester of formula (II), wherein R2 represents methyl or ethyl, and 70 to 10 parts by weight of a ***methacrylic*** acid ester of formula (III), wherein R3 represents a hydrocarbon group having 3 to 24 carbon atoms with
the proviso that R3 is not a cyclohexyl and that the difference in the number of carbons between R2 and R3 is more than 1, and 0 to 10 parts by
weight of a further ***monomer*** M which may be copolymerised with
but is different from the monomers of formula (II) and (III).
0/0
ABEQ US 4897441 A UPAB: 19930923
A compatible polymer mixt. comprises:
(1) 0.1-99.9 wt.% of polymer P1 having ***monomer*** units of formula (I) (where R is H or CH3 gp.); (2) 99.9-0.1 wt.% copolymer P2 comprising 30-90 pts.wt. of ***methacrylic*** acid ester ***monomer*** of formula (II) and 70-10 pts.wt. of ***methacrylic***
acid ester of formula (III) (where R2 is CH3 or C2H5 and R3 is 3-24C hydrocarbon gp.); (3) 0-10 pts.wt. copolymerisable ***monomer*** different from (II) and (III).
USE/ADVANTAGE - Compatible polymer mixts. may be formed into polymer
articles e.g. films, fibres, plates etc. They have good optical, mechanical, adhesion and solvent resistant properties.
ABEQ US 4952455 A UPAB: 19930923
A polymer article formed of a compatible polymer mixt. comprises: (I) 0.1-99.9 wt.% polymer P1 which is formed from monomers (I) CH2 = C(R1)Ph
(I) where R1 = H, Me; and (II) 99.9-0.1 wt.% copolymer P2 prepd. from 30-90 parts wt. ***methacrylic*** acid ester ***monomer*** (II) CH2 = C(Me)-COOR2 (II) where R2 = Me, Et; 70-10 parts wt. ***methacrylic*** acid ester (III): CH2 = C(Me)-COOR3 where R3 = 3-24C
hydrocarbon; and 0-10 parts by wt. third ***monomer*** M which is copolymerisable with but different from the monomers (I) and (II); P1 component forming the core portion of polymer article while polymer P2 constitutes a coating on the core portion. P2 polymer pref. contains
0.1-20 wt.% based on the wt. of polymer P2 of a U.V-absorbing substance.
The article is pref. an optical gradient fibre.
ADVANTAGE - The mixt. P1 which is a polystyrene and P2 a copolymer of
esters of ***methacrylic*** acid has improved properties.

L22 ANSWER 20 OF 30 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1988-368747 [51] WPIDS
DOC. NO. NON-CPI: N1988-279358
DOC. NO. CPI: C1988-163215
TITLE: New crosslinked N-acryloyl- tris hydroxymethyl-amino-methane polymer - useful as gels for electrophoretic sepn. of proteins, ***DNA*** etc., having high exclusion limit.
DERWENT CLASS: A14 A89 B04 D16 J04 S03
INVENTOR(S): MOSBACH, K
PATENT ASSIGNEE(S): (KOZU-I) KOZULIC B; (MOSB-I) MOSBACH K; (ELCH-N) ELCHROM
LTD; (NSEI) NIPPON SEIKO KK
COUNTRY COUNT: 13
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 8809981	A	19881215 (198851)*	EN	34	<--
RW: AT BE CH DE FR GB IT LU NL SE					
W: JP US					
GB 2206594	A	19890111 (198902)			<--
EP 318551	A	19890607 (198923)	EN		<--
R: AT BE CH DE FR GB IT LI LU NL SE					
JP 01503629	W	19891207 (199004)			<--
EP 318551	B1	19930512 (199319)	EN	16	<--
R: AT BE CH DE FR GB IT LI LU NL SE					
DE 3880978	G	19930617 (199325)			<--
US 5319046	A	19940607 (199422)		10	<--

JP 2654681 B2 19970917 (199742) 10

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 8809981	A	WO 1988-EP515	19880610
GB 2206594	A	GB 1988-13744	19880610
EP 318551	A	EP 1988-905199	19880610
JP 01503629	W	JP 1988-505008	19880610
EP 318551	B1	EP 1988-905199	19880610
		WO 1988-EP515	19880610
DE 3880978	G	DE 1988-3880978	19880610
		EP 1988-905199	19880610
		WO 1988-EP515	19880610
US 5319046	A	WO 1988-EP515	19880610
		US 1989-328123	19890131
JP 2654681	B2	JP 1988-505008	19880610
		WO 1988-EP515	19880610

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 318551	B1 Based on	WO 8809981
DE 3880978	G Based on	EP 318551
	Based on	WO 8809981
US 5319046	A Based on	WO 8809981
JP 2654681	B2 Previous Publ.	JP 01503629
	Based on	WO 8809981

PRIORITY APPLN. INFO: GB 1987-13854 19870613; GB 1988-13744 19880610

AN 1988-368747 [51] WPIDS

AB WO 8809981 A UPAB: 19930923

A polymer comprising N-acryloyl-tris (hydroxymethyl) aminomethane (I) crosslinked with an agent (II) contg. 2 or more double bonds is new. Also new is prepn. of (I) by reacting acryloyl chloride (III) with tris(hydroxymethyl) aminomethane (IV) in presence of base on a 2-phase aq.

organic solvent system. (I) is purified from the aq. base by treatment with a mixt. of strong ***cationic*** and weak anionic ion-exchange resins, then evapn. at atmos. pressure. Pref. (II) is N,N'-methylene-bisacrylamide (IIa).

USE/ADVANTAGE - The polymers are useful as gels for electrophoretic

sepn. of proteins (according to size), nucleic acids, polynucleotides and charged molecules (where the charge is intrinsic or introduced by derivatisation). The gels have exclusion limit about 3 million (3 times higher than for polyacrylamide gels), so are superior for sepn. of large molecules, and can provide perfect resolution of ***DNA*** fragments of over 20 kb. They also show a reducing sieving effect.

3/6

ABEQ EP 318551 B UPAB: 19931113

A substantially transparent, substantially charge-free, substantially water-insoluble gel for electrophoresis comprising from about 4% to about 24% of a polymer comprising units derived from N-acryloyl-tris(hydroxymethyl) aminomethane (NAT) and a crosslinker comprising N,N'-methylene- bis- ***acrylamide*** (BIS) with the proviso that said gel is prepared by polymerisation in the absence of carrier ampholytes.

Dwg.0/7

ABEQ US 5319046 A UPAB: 19940722

Prepn. of N-acrylyl-tri(hydroxymethyl)aminomethane comprises reaction of

acrylyl halides in a water-immiscible solvent with an aq. soln. of tris(hydroxymethyl)aminomethane in the presence of a base and a polymerisation inhibitor while keeping the pH of the mixt. at 8-9 by continuous addn. of alkali. Prepn. of a gel comprises polymerisation of the above N-acrylated deriv. and crosslinking with N,N-methylene-bis- ***acrylamide*** or other analogous bifunctional reagent (up to 5 wt. %

based on the ***monomer*** and crosslinking agent), in the absence of ampholytic carriers.

USE/ADVANTAGE - The prods. are electrophoretic gels for the improved

sepn. of aminoacids, peptides, ***DNA*** fragments, polysaccharides, etc. These gels are not affected by strong electric fields, resulting in sharper sepns.

Dwg.1a+b/5

L22 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:43597 HCAPLUS

DOCUMENT NUMBER: 126:75528

TITLE: Synthesis of a thermally sensitive polymer and its monomers

AUTHOR(S): Zheng, Wenjie; Zhou, Huilin; Li, Yulin; Huang, Ningxing; Huang, Zuhan

CORPORATE SOURCE: Dep. Chem., Jinan Univ., Canton, 510632, Peop. Rep. China

SOURCE: Jinan Daxue Xuebao, Ziran Kexue Yu Yixueban (***1994***), 15(3), 65-69

CODEN: JDXUET; ISSN: 1000-9965

PUBLISHER: Jinan Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB A kind of thermally sensitive hydrogels and two important monomers, N-Pr ***acrylamide*** (NNPA) and N-iso-Pr ***acrylamide*** (NIPA), were synthesized. A 60% yield of NNPA and a 72% yield of NIPA were obtained.

The two monomeric compds. were studied by elemental anal., IR and their physicochem. properties. The equil. swelling characteristics of the poly-N-isopropylacrylamide (PNIPA) hydrogel were detd. Its swelling and deswelling processes are thermally reversible. This thermally reversible gel has a phase transition temp. or a lower crit. soln. temp. (***LCST***) at the range of 33.degree. to 35.degree.. Its swelling ratios around ***LCST*** are between 25 to 30 times.

L22 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1995:894379 HCAPLUS

DOCUMENT NUMBER: 123:286860

TITLE: Dispersion Polymerization of Methyl ***Methacrylate*** Stabilized with Poly(1,1-dihydroperfluorooctyl acrylate) in Supercritical Carbon Dioxide

AUTHOR(S): Hsiao, Yu-Ling; Maury, Elise E.; DeSimone, Joseph M.; Mawson, Simon; Johnston, Keith P.

CORPORATE SOURCE: Department of Chemistry, University of North Carolina, Chapel Hill, NC, 27599-3290, USA

SOURCE: Macromolecules (***1995***), 28(24), 8159-66

CODEN: MAMOBX; ISSN: 0024-9297

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The reaction parameters and progress of the dispersion polymn. of Me ***methacrylate*** (MMA) using poly(1,1-dihydroperfluorooctyl acrylate) [poly(FOA)] as a polymeric stabilizer in supercrit. CO2 were investigated. Spherical and relatively uniform polymer particles were formed. PMMA latex particles with diams. 1.55-2.86 .mu.m were obtained with poly(FOA) stabilizer [Mw = 1.0 (.+-. 0.4) .times. 106 g/mol] concn. from 16 to 0.24 wt.-%. Investigations of the particle size and conversion as a function of reaction time indicate that a gel effect occurs between 1 and 2 h of reaction time. In addn., the particle diam. increases with an increase in ***monomer*** concn., presumably due to an increase in the solvency of the reaction medium. Dispersion polymns. of MMA carried out under different pressures (145-331 bar) produced latex particles with similar diams., mol. wts., and yields, suggesting that the results are insensitive to the pressure under the reaction conditions investigated. In addn., the phase behaviors of poly(FOA) were thoroughly investigated. Cloud point expts. indicate lower crit. soln. temp. (***LCST***) phase behavior for the poly(FOA)/CO2 system with much higher polymer solubilities than for hydrocarbon polymers.

L22 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1995:759134 HCAPLUS

DOCUMENT NUMBER: 123:193092

TITLE: Weakly basic polymerizable monomers and polymers fro ***nucleic*** ***acid*** precipitation

INVENTOR(S): Ponticello, Ignazio S.; Swartz, Jerome C.; Ekeze, Tobias E.

PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5434270	A	19950718	US 1994-306341	19940915 <--
US 5523368	A	19960604	US 1995-435739	19950505 <--
JP 08176236	A2	19960709	JP 1995-231286	19950908 <--
CA 2158487	AA	19960316	CA 1995-2158487	19950914 <--
EP 702006	A1	19960320	EP 1995-306479	19950914 <--
EP 702006	B1	20000510		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE

AT 192739	E	20000515	AT 1995-306479	19950914
ES 2145874	T3	20000716	ES 1995-306479	19950914

PRIORITY APPLN. INFO.: US 1994-306341 A3 19940915
OTHER SOURCE(S): MARPAT 123:193092
AB Weakly basic monomers such as N-(imidazolylalkyl) ***methacrylamides*** are prepd. and either homopolymd. or copolymd. with other ***acrylic*** monomers. The polymers are water-sol. and ***cationic*** at acidic pH, but water-insol. and neutral at basic pH and can be used for pptg. nucleic acids. Thus, 1-(3-aminopropyl)imidazole was ***methacryloylated*** and the resulting unsatd. ***monomer*** (12.5 g) was homopolymd. by using 2.2'-azobis(2-methylpropionitrile) (300 mg) in 90 mL water and 10 mL iso-PrOH at 65-70.degree.. The soln. was acidified after 1.5 h and the polymer pptd. in acetone soln.

L22 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:671029 HCAPLUS
DOCUMENT NUMBER: 123:122976
TITLE: An intelligent biopolymer gel with pendant L-proline methyl ester
AUTHOR(S): Yoshida, Masaru; Safranj, Agneza; Omichi, Hideki; Katakai, Ryoichi
CORPORATE SOURCE: Japan Atomic Energy Research Institute, Research Establishment, Takasaki, 370-12, Japan
SOURCE: JAERI-Conf (***1995***), 95-003(Proceedings of the 6th Japan-China Bilateral Symposium on Radiation Chemistry, 1994), 377-82
CODEN: JECNEC
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Linear poly(acryloyl-L-proline Me ester, A-ProOMe), obtained by radiation-induced polymn. of its ***monomer*** in ethanol, exhibits a lower crit. soln. temp. (***LCST***) at 14.degree.C. A-ProOMe was copolymd. with a minor amt. of 2-hydroxypropyl ***methacrylate*** (HPMA) or 2-hydroxyethyl ***methacrylate*** (HEMA), to obtain intelligent biopolymer gels for application in drug delivery systems. The poly(A-ProOMe/HPMA) gel was characterized by an initial rapid shrinkage at the surface in the swollen state, as resulting in formation of a rigid membrane barrier devoid of micropores. This gel is called a surface regulated matrix. In the case of poly(A-ProOMe/HEMA), no such a barrier formed, instead, the whole matrix shrunk without the disappearance of micropores. This gel is called a matrix pumping gel. Testosterone (T) was incorporated into the poly(A-ProOMe/HPMA) gel, and it was found that the daily dose of T released in vivo from this formulation remained const. at approx. 30 .mu.g/day throughout an exptl. period of 54 wk. On the other hand, 9- beta.-D-arabinofuranosyladenine (Ara-A) was incorporated into the poly(A-ProOMe/HEMA) gel to evaluate the pulsatile drug release when cycled at 10 and 37.degree.C. The in vitro release rate of Ara-A was found to be 11 ng/h at 10.degree.C and 33 ng/h at 37.degree.C.

L22 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:656504 HCAPLUS
DOCUMENT NUMBER: 121:256504
TITLE: A thermo-sensitive material prepared by preirradiation grafting of NIPAAm onto EVA polymer
AUTHOR(S): Ding, Zhongli; Pu, Hongting; Ye, Hong; Ma, Zueteh; Hoffman, Allan S.
CORPORATE SOURCE: Shanghai Appl. Radiat. Inst., Shanghai Univ. Sci. and Technol., Shanghai, 201800, Peop. Rep. China
SOURCE: Fushe Yanjiu Yu Fushe Gongyi Xuebao (***1994***), 12(1), 11-17
CODEN: FYYXEA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB N-isopropylacrylamide (NIPAAm) was grafted onto ethyl-vinyl acetate (EVA) copolymer by preirradn. grafting. The factors which affect the grafting reaction were studied. The common characteristics of the preirradn. grafting reaction in liq. ***monomer*** -solid trunk polymer system are obsd. in this system. The surface of EVA grafted with NIPAAm shows thermo-sensitivity similar to a poly-NIPAAm gel. The response to the change of temp. through the lower crit. soln. temp. (***LCST***) of the graft is more swift than that of the gel. The ***LCST*** of the grafted-surface shifts increases and the drop of swelling around the ***LCST*** diminishes with increasing hydrophilicity of the graft when co-grafting NIPAAm with ***acrylic*** acid or ***acrylamide*** .

L22 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:427704 HCAPLUS
DOCUMENT NUMBER: 117:27704
TITLE: Interaction parameters for blends containing polycarbonates. 2. Tetramethyl bisphenol A polycarbonate-styrene copolymers
AUTHOR(S): Kim, C. K.; Paul, D. R.
CORPORATE SOURCE: Cent. Polym. Res., Univ. Texas, Austin, TX, 78712, USA
SOURCE: Polymer (***1992***), 33(10), 2089-102
CODEN: POLMAG; ISSN: 0032-3861
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The phase behavior of binary blends of tetra-Me bisphenol A polycarbonate (I) and styrene (II)-Me ***methacrylate*** (III) copolymers (IV) and II-acrylonitrile (V) copolymers (VI) was re-examd. as a function of copolymer compn. The interaction parameters for I blends with IV and VI were evaluated from the lower crit. soln. temp. (***LCST***) type phase boundary using the lattice fluid theory of Sanchez and Lacombe. From such information for several copolymer compns., bare interaction parameters for various ***monomer*** unit pairs, .DELTA.P*ij, were calcd. using a binary interaction model. The interactions of II with the III ***monomer*** units and with I were weakly repulsive, while those of V with II ***monomer*** units and with I were strongly repulsive. The phase behavior at the crit. compn. suggested that there existed an optimum content of III and V in the copolymer at which the interactions were most favorable. Thermodn. anal. based on the lattice fluid theory showed that the more favorable interactions of I blends with some IV and VI copolymers relative to polystyrene (VII) were achieved by different routes. A more neg. energetic term caused by strong intramol. repulsion between II and V and a reduced compressibility effect were the main reasons why I blends with certain VI copolymers had higher ***LCST*** than did blends with VII. Compressibility or equation-of-state effects, esp. the decrease in the characteristic temp. difference between I and IV as III content increased, was the main reason why certain IV had higher ***LCST*** than VII when blended with I. The intramol. repulsion between II and III was weak.

L22 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:554815 HCAPLUS
DOCUMENT NUMBER: 111:154815
TITLE: Miscibility of blends of polymers based on styrene, acrylonitrile and methyl ***methacrylate***
AUTHOR(S): Nishimoto, M.; Keskkula, H.; Paul, D. R.
CORPORATE SOURCE: Cent. Polym. Res., Univ. Texas, Austin, TX, 78712, USA

SOURCE: Polymer (***1989***), 30(7), 1279-86
CODEN: POLMAG; ISSN: 0032-3861
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Miscibility of binary blends of homopolymers, copolymers and terpolymers
based on styrene Me ***methacrylate*** and acrylonitrile units was examd. by optical clarity and lower crit. soln. temp. (***LCST***) behavior. The blends were systematically classified into six groups according to the no. of the monomers included. In each system, miscibility areas were calcd. as a function of the ***monomer*** compn. in the polymers using a binary interaction model and interaction parameters deduced from information available in the literature. Exptl. observation correspond well to the calcd. miscibility zones. All miscible pairs show ***LCST*** behavior.

L22 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:22599 HCAPLUS
DOCUMENT NUMBER: 108:22599
TITLE: Lower critical solution temperatures of aqueous copolymers of N-isopropylacrylamide and other N-substituted ***acrylamides***
AUTHOR(S): Priest, John H.; Murray, Sheryl L.; Nelson, R. John; Hoffman, Allan S.
CORPORATE SOURCE: Genet. Syst. Corp., Seattle, WA, 98121, USA
SOURCE: ACS Symp. Ser. (***1987***), 350(Reversible Polym.
Gels Relat. Syst.), 255-64
CODEN: ACSMC8; ISSN: 0097-6156
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The lower crit. soln. temps. (***LCST***) of copolymers of N-isopropylacrylamide (I) with ***acrylamide*** (II), N-methylacrylamide (III), or N-ethylacrylamide (IV) increased with decreasing I concn. in the comonomer feed. As expected II was the most effective in elevating the ***LCST*** of the copolymers formed, and surprisingly IV was more effective than III. In contrast, the ***LCST*** of copolymers of I with N-n-butylacrylamide or N-tert-butylacrylamide decreased linearly with decreasing I concn. in the comonomer feed. The use of these copolymers in diagnostics and biosepns.
was discussed.

L22 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:19313 HCAPLUS
DOCUMENT NUMBER: 106:19313
TITLE: Blends containing polymers of epichlorohydrin and ethylene oxide. II. Polyacrylates
AUTHOR(S): Fernandes, A. C.; Barlow, J. W.; Paul, D. R.
CORPORATE SOURCE: Dep. Chem. Eng., Univ. Texas, Austin, TX, 78712, USA
SOURCE: J. Appl. Polym. Sci. (***1986***), 32(7), 6073-94
CODEN: JAPNAB; ISSN: 0021-8995
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The phase behavior of blends of various polyacrylate homopolymers and 2
acrylic rubbers contg. Cl-contg. monomers and Et acrylate (I) or Bu acrylate (II) with polyepichlorohydrin (III) [24969-06-0], poly(ethylene oxide) (IV) [25322-68-3] and an epichlorohydrin-ethylene oxide copolymer (V) [24969-10-6] was examd. using DSC and optical indications of phase sepn. on heating, i.e., lower crit. soln. temp. (***LCST***) behavior. Poly(Me acrylate) (VI) [9003-21-8] was miscible
with III, IV, and V while only II was miscible with the higher polyacrylates: poly(Et acrylate) [9003-32-1], I rubber, poly(Pr acrylate) [24979-82-6], and II rubber. III was only partially miscible with poly(Bu acrylate) [9003-49-0]. Glass transitions obsd. by DSC for blends were not as broad as those found in the corresponding polymethacrylate blends. All mixts. showed ***LCST*** behavior, and, based on this and excess vol. measurements, qual. conclusions were made concerning the relative strengths of the interactions among the various blend pairs. For III, the interaction with polyacrylates decreased with increasing size of the alkyl group. The I and II copolymers interacted more exothermically with III than the corresponding homopolymers. The interaction with VI was larger for III than for IV or for V. Interactions for the latter 2 were about the same due to exothermic interactions between ***monomer*** units which were not sufficiently strong to preclude miscibility of V with VI.
As for the polymethacrylates, it was clear that the Cl moiety of III was needed for miscibility with higher polyacrylates.

L22 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1977:156440 HCAPLUS
DOCUMENT NUMBER: 86:156440
TITLE: Polyion complexes containing ***nucleic*** ***acid*** bases
INVENTOR(S): Seida, Tooru; Shimizu, Akihiko; Kosaka, Yujiro
PATENT ASSIGNEE(S): Toyo Soda Mfg. Co., Ltd., Japan
SOURCE: Japan. Kokai, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51136780	A2	19761126	JP 1975-60242	19750522 <--
US 4119590	A	19781010	US 1977-809011	19770622 <--

PRIORITY APPLN. INFO.: JP 1975-60241 19750522
JP 1975-60242 19750522
JP 1975-62533 19750527
US 1976-687220 19760517

GI For diagram(s), see printed CA Issue.
AB ***Cationic*** polymers (I, II, III, or IV) (R1 = H or C1-4 alkyl; R2 and R3 = C1-10 hydrocarbyl; R4 = H or Me; R5 = C1-6 alkyl; R6 and R7 =
C1-4 alkyl; M = vinyl ***monomer*** moiety affording no polyelectrolyte; x = arbitrary no. including 0; Y = halogen or OH; A = O or NH; y = 0 or 1 ;n = .gtoreq.10; X = adenine, thymine, uracil, or cytosine moiety or their substituted derivs.; the purine and pyrimidine ring are attached at the 9- and 1-positions, resp.) were reacted with polycarboxylic acids in solvents. Thus, a soln. of 1 g poly(***acrylic*** acid) [9003-01-4] (mol. wt. 8 .times. 104) in 150 mL distd. water was added at room temp. with stirring to a soln. of 5 g V [62272-01-9] in 500 mL distd. water to give white polyelectrolyte complex
powders.